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A HISTORY OF THE BOOT AND SHOE INDUSTRY FROM A SOCIAL AND ECONOMIC ASPECT PAST AND PRESENT

by

LUCY JOSEPHINE KOEHLER

A Thesis Submitted for the Degree of

MASTER OF SCIENCE

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PREFACE

A goodly part of the material for this thesis was obtained by observation of the intricate processes of the making of a shoe at the Badger State Shoe Factory, located at Madison, Wisconsin, and at the Nunn Bush and Weldon Shoe Factory located at Milwaukee, Wisconsin. Interviews and correspondence with men engaged in the boot and shoe and related industries, such as the United Shoe Machinery Company, located at Beverly, Massachusetts, a branch office of the United Shoe Machinery Company, located at Milwaukee, Wisconsin, the Non Royalty Shoe Company, located at St. Louis, Missouri, the Badger State Shoe Company of Madison, and the Nunn Bush and Weldon Shoe Company of Milwaukee afforded additional information.

The object has not been to confine the theme purely to a history of the industry, but to cover other departments of interest related to boots and shoes, such as the history of the shoe, and the modern methods of making a shoe by the wonderful machine processes, which manifest the unique attainment of the 20th century in the boot and shoe industry.

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The Shoe in Romance and History

The footwear of nations has been a subject for their superstition, a part of their religion, and a factor in their warfare. Romance is indissolubly linked about the shoe.

To the fanciful minds of our ancestors the shoe possessed personality and charm. From time immemorial shoes and weddings have been associated in popular romance. The familiar custom of throwing the old shoes of a bride after her is but one of the many formalities that date back for ages in the folk-lore of England and other countries. Sentiment and the shoe have been closely associated in the minds of the peasant people of Europe. In the Tyrol, for example, it was once the custom for the groom to present his bride with her wedding shoes. These were literally covered with dainty colored, heart-shaped decorations, and were among her cherished possessions, for love and happiness, according to the folk lore of this simple-minded people, would endure only so long as this token. In the Anglo-Saxon wedding, the shoe was as indispensable as the ring is with us to-day. During the ceremony the bride passed her shoe to the bridegroom who gently tapped her on the head with it to signify his future authority. The valiant Roman is of interest in his superstition. He thought it an ill omen to put the left shoe on before the right. The occurrence of this very thing once nearly caused the downfall of one of Rome's early emperors. The poet Butler speaks of the incident in the following stanza:

> Augustus having b' oversight
> Put on his left shoe 'fore his right
> Had like to have been slain that day
> By soldiers mutining for pay.

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In the Bible we read, "Over Edom will I cast my shoe", indicating that the Hebrew regarded the shoe as a symbol of conquest and possession. In Ireland it was once believed that burying the old shoes of a lost child was an unfailing means of bringing it back again. The Italian mother believed that by placing a bow of red ribbon on the shoe of her child the evil eye might be averted. A great significance is attached to the shoe when John, the Baptist, says, "I indeed baptize you with water unto repentance, but he that soweth after me is mightier than I, whose shoes I am not worthy to bear."

In warfare the shoe has played a more tangible part. The great Napoleon said, "With bread and a pair of good shoes, a man can march around the world". Wellington attributed his military success very largely to the fact that his soldiers were the best shod in Europe. Thus we see that the greatest generals have paid homage to the humble shoe, and we know that the fate of nations has been very highly dependent on the ability of its foot soldiers to march. At one time during the Franco-Prussian war 30,000 German troops were incapacitated because of injuries to their feet. When the Turcos, the French troops from Africa, came to France to fight in the battle of the Marne during the recent World War, they were shod in light slippers which were adapted to desert marching. The French army officers anticipating wet weather and bad roads, refitted the Turcos to the regulation heavy marching boot. During the march to the firing line they began to discard their boots, which rendered them practically useless when they came into actual battle. History is replete with instances where the feet of soldiers have been more important than their guns and sabres.

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Albert Hubbard has said that men advertise to the world their mental condition by their shoes. This is found to be true in northern Africa, where the careless and slovenly nature of the people is typified by their ill-fitting sandals and slippers. Possibly the religious practices of these people is the excuse for this loose and slovenly foot covering, for the Mohammedan must remove his shoes whenever performing his religious duties. He must never wear his shoes inside a mosque, nor may he wear them at the hour of prayer. If he be on the vast Sahara he must slip the sandal from his foot, drop to his knees and pray to Allah. When the faithful Mohammedans return from their pilgrimages to Mecca they publish to their brethren at home that they have performed this mission by decorating their sandals and turbans with pieces of green leather.

The well fitting and comfortable shoe of to-day was not evolved in a week or a year - not even in a century. It is the solution of a problem on which man has been working for ages. The primitive man must protect his feet from sharp stones, briars and stings of reptiles. He obtained protection and comfort by using the pelt of a newly killed animal to make himself a covering for the foot. A portion of this pelt while still warm and supple was wrapped around the foot and ankle and fastened by means of the sinews of the dead beast. From this crude beginning the shoe has been developed through constant change, conforming to necessity, superstition, and religious belief. How each nation and each century wrestled with the problem is most interesting. Has this problem been one merely in "How shall we protect our feet?" Or has the economic significance become merged

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in the problem of satisfying our aesthetic cravings, "How shall we most beautifully and uniquely dress our feet?"

The sandal has been the simplest form of shoe. Sandals have been worn in nearly all parts of the world at some time, and date back at least to the time of the Egyptians. With them, however, they were not in general use, and custom forbade their being worn in the presence of a superior. Among the Greeks and Romans sandals were more commonly used and they evolved many of the most unusual forms of this type of footwear. For example, the cothurnus, the sandal of the Greek actor, had a sole of immense thickness, which gave the wearer an almost Herculean appearance. Of the Roman sandals the most unique was doubtless the caliga which was worn by the legionary soldier. Sharp spikes were arranged on the bottom of the caliga in the form of the name or number of the legion to which the wearer belonged. With these he literally trampled his enemy to death, and according to the following verse from Gifford's "Juvenal", even the innocent bystander often suffered:

> "While the rude soldier gores us as he goes,
> Or marks, in blood, his progress on our toes." *

The Emperor Caligula received his cognomen in boyhood, when, to please some of his soldiers, his father placed a caliga upon the foot of the child.

Like the sandal the mocassin has been used in many parts of the world. Its use has by no means been confined to the American Indian as many are wont to believe. In southern Europe the rugged mountaineers of Montenegro still prefer to endure the hard-

* Gifford - Satire III

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ships of war in their moccasin footgear, and the Greek soldier may be seen to possess the same liking for his moccasin shoes. The Greek moccasin is very striking; it is made of bright red leather and the toe is decorated with an immense tuft of black wool. The moccasin of the people of the Balkans, unlike that of the American Indian, is a heavy affair and has nearer the appearance of a modern shoe.

To us the moccasin inevitably brings to mind our native Indian. Our histories and fiction have always represented the wily redskin as silently and swiftly approaching his foe. The gaudy colors and decorations of the Indian, and his elaborately beaded moccasins, are familiar to all. Before the introduction of beads, dyed porcupine and bird quills were used in ornamenting the moccasin uppers. These were so arranged as to conform to the tribal designs, and to this day the design is carefully carried out and great significance attached to it. Sometimes trailing, leaded thongs were placed at the heel so that by the number of marks left in the snow it could be learned whether friend or foe had passed. On some of the more modern moccasins pieces of brass or tin, which had been purchased from the white traders, were arranged around the top in such a manner as to make a cheerful tinkling sound when the wearer was walking or dancing.

In wet and marshy countries and in the Arctic regions the moccasin is not only extremely perishable, but is not a sufficient protection. The natives of the land of ice and snow wear high moccasin boots made of seal, walrus, or fishskin. The American Esquimau in his fur clothing and sealskin boots is a familiar

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picture. The fishskin boot is commonly used around the salmon fishing area of the Amur region. The natives in their fishskin boots wade through rivulets and walk in ice and snow as on dry ground, equally protected against cold and moisture.

In these far northern lands snowshoes are an absolute necessity, of which class of footwear there are two distinct types, the ski and the netted snowshoe. The former is generally used when the wearer, with little or no load, wishes to cover the ground rapidly, while the latter is of value when the wearer is heavily burdened or is drawing a sled. It is claimed by those accustomed to the use of snowshoes that it is possible to cover at least fifty miles a day when wearing them, due to the great length and uniformity of stride possible in such footwear. Then, too, when hunting the bear in deep snow it is possible to approach the floundering prey without peril.

The snowshoe is not the only peculiarity in footwear found in the lands of ice and snow. In glacial districts and where the snow has a thick, icy, crust, devices called ice creepers are in common use. The most effective of all ice creepers is a sharp pointed device which the guides of the Swiss Alps strap to the bottom of their footgear. In Russia and the extreme northern part of China and Mongolia the natives invariably drive sharp-headed nails, sometimes of immense size, into the bottoms of their heavy leather boots for the same purpose.

The footwear of the south of China is made up entirely of cloth and felt. A few years ago leather was almost unknown there principally because of its scarcity, while cloth and felt have

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been among the staple commercial commodities for centuries. The uppers of Chinese shoes are usually made of satin or brocade, and the soles, which are sometimes two or three inches thick, are composed of countless layers of very thin felt. The Chinese shoemaker is one of the most ingenious workmen in the world and every detail of his curious shoe is carefully thought out and beautifully executed.

The Japanese shoe, like the Chinese shoe, is not made of leather, but it is made of very different material. The thick felt soles, which absorb the dirt and filth of the streets, could never be tolerated by the inhabitants of the empire of the Mikado, who never even wear their sanitary wooden clogs indoors, but remove them before entering their cleanly abodes. The wooden clog, the straw sandal, and the tabi, or sock, constitute the footwear of the Japanese. The clog is found in countless styles and varieties, different kinds being worn on different occasions. Some are low and finished in the natural wood, and nothing more simple could be imagined. On the other hand, those worn by the Japanese courtesan, are a foot or more in height and are beautifully upholstered and lacquered. In the rainy season, high, stilt-like clogs are worn to raise the feet from the mud of the streets. One can easily imagine how disagreeable it would be to have the clog on one foot make a different sound from that on the other. The Japanese are very careful in selecting their clogs so that both sound alike.

Almost as unique as the Japanese clog is the sabot, or wooden shoe worn in marshy lands. Wooden shoes bring to mind

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quaint and picturesque Holland, where they are known as Klompen, but the sabot has by no means been confined to a single country. It is said that to-day there are more sabots worn in the middle west of America than in all Holland. They are also in use in the Pyrennes of France and Spain, and in Korea. The sabot, although outlandish in appearance, is a very sensible shoe for use in damp and marshy countries, for it is waterproof without being air-tight. Usually a soft, leather sock is worn with the sabot, or, if this proves too expensive, straw or soft grass is used.

This affords us a survey of a few types of shoes. We will now trace the history of the shoe from the Egyptian sandal to the plain sensible shoe of the American colonist. At some periods of history the economic consideration seems almost purely negative, the desire of people to give expression to their ideas of beauty, to express their love for variety and change, seem paramount. Moreover, it is easy to perceive the power of Dame Fashion and appreciate the humor of Calthorp, the English authority on costume, when he says, "How is fashion born? Who mothers it? Who nurses it to fame and in whose arms does it lie? High collar, low collar, short hair, long hair, boot, buskin, shoe- who wore you first? Who last condemned you to the World's Great Rag Market of Forgotten Fads?" *

Our knowledge of the earliest civilization, that of the Egyptians, is obtained from the pictures cut in relief in the stone walls of the ruined temples and tombs, and from the traditional Rosetta stone. Many Egyptians had no desire for a cover-

* Calthorp- English Costume- Middle Ages - p. 90.

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ing for their feet, for we find them barefooted. This was true of the common people. The aristocratic class wore a sandal which was very simple and satisfied the primitive need of a protective dress for the foot. It was merely a sole, made of papyrus and held to the foot by straps. To symbolize that they had subjected their enemies, that they had them "underfoot", these aristocrats painted pictures of them on the lining of their sandals, thus giving to the footwear a new and additional meaning. The kings of the 18th dynasty wore sandals with toes upturned. The common people of the ancient Assyrians also were barefooted. A few of the upper class women wore sandals. The sandals which the kings wore were fastened at the front by a ring, thro' which the large toe slipped, and by a latchet over the instep. The footgear of the Hebrews was of two kinds, shoes and sandals. The shoes were made of soft leather, and sandals of hard leather. The excavations which have been made on the island of Crete bring to light seals, figures, chests, etc. which prove that elegant footwear was a characteristic of the Cretans. Casts show shoes with the sole clearly marked, and a seam in the upper leather at the same place where our modern shoes have them. The officers wore puttees similar to those of the modern English officers -- a bandage of folds around the leg from the ankle to halfway up the leg. The Medes and Persians wore high and low shoes, open at the front and secured by buttons. The sandals of Etruscan women consisted of soles of leather and leather straps.

This early form of footwear doubtlessly originated to serve primarily as a protection. It very early diverges from this to be-

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come mainly an article of ornamentation. The Greeks bear this out. They were, as we know, unique in their dress. The sandal worn by women was often the most costly and the most artistic article of their attire, being much adorned with gold and embroidery. The sole was often made of several thicknesses of leather with the addition occasionally of a layer of cork. Gradually the leather was extended to cover the entire foot and the slipper is born. Shoes soon began to fit more closely. They were made of leather, sometimes of felt, and were usually of a black color. The women's shoes, however, were made of bright colors, - red, blue, or yellow. Prominent Greeks, naturally, set the fashion, and there was the "Alcibiades" shoe, and the "Iphicrates" shoe just as today we have the "Bluchers" shoe.

It was in Rome that the sandal began to assume a shape something like that of our modern shoe. Some were very elaborate and very costly. They were made of leather, usually dyed purple. Ladies and soldiers especially wore rich shoes. The calceus, a shoe whose predominating characteristics were the straps, was worn in public with the Roman costume, the toga, and varied according to the rank of the wearer, - the senators' and consuls' shoes had a greater number of straps.

The shoes of the western world are quite as interesting as those of the Orient. Until the end of the 10th century shoes worn in England were of the sandal type, but the next two centuries saw a departure from that form of foot wear. The Anglo-Saxons constructed their shoes in imitation of the Roman-British models. In addition to these they originated something new. They

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had some high boots, called "Socca", extending half way up the calf of the leg and falling in wrinkled creases. Usually the shoes were very simple. They were painted black with an opening down the instep, and showed a tendency toward a point at the toe.

The Norman Conquest marked no great change in the development of shoes, the conquerors inclined toward the fashions found in England. The Bayeux tapestry exhibits the plainest kinds of shoes.

During the reign of Wm. II, 1087 - 1100, styles became more extravagant. This period marks the beginning of the peaked-toed boots and shoes which remained the vogue for three centuries. At first they were worn only by nobles and dandies. During the reigns of Henry I, 1100 - 1135, and Stephen, 1135- 1154, the toes lengthened and the shoes became more elaborate and expensive. The toes were stuffed with tow on moss, and turned up in the shape of a ram's horn. Another type, called the "cornado", had points like a scorpion's tail. They were sometimes made of stout cloth, but leather was usually the material used. Wooden soles were sometimes used. The women did not adopt this extreme fashion, showing at least one period in the history of the world when the women were the more conservative in the matter of dress.

However, they did not remain conservative long. At the time of the next reign, that of Henry III, 1216 - 1272, the women's shoes were pointed, and elaborately embroidered. This reign is remarkable for the rich materials introduced. More elaborate ornamentation was used and shoes were very costly. The shoes were decorated in cheques or frets, or painted black ac-

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cording to the rank of the wearer. We read of the exceedingly elaborated coronation shoe of Henry III - the figure of a leopard was embroidered in each gold mesh.

During the following centuries the length of the toe increased. In the 14th century this resulted in what was probably the strangest freak in styles of footwear the world has ever seen. The 14th century was a period of French influence and hence a period of much exaggeration in dress. The toes of boots and shoes often extended six inches beyond the end of the foot and in order to give the wearer the opportunity of walking with any freedom it was necessary to chain the long toes to the knees. As this extreme type was worn by the dandies of the land, the fastenings used for this purpose were sometimes very elaborate and costly, being chains of silver, and sometimes even of gold. The toes were sometimes stuffed hard, sometimes allowed to hang limp. They were sometimes wired to effect fantastic shapes. High clogs of wood were used with pointed ends to support the toes of the shoes. These "poulaines" as they were called, were made of felt, broadcloth, silk, velvet, or leather. The clergy objected to this sort of footwear on the ground that the people wearing them could no longer kneel in church to say their prayers, and soon the matter was taken up by the State. Its death knell was tolled shortly after when in 1465 a proclamation was issued which limited the toes of shoes to two inches in length.

The 14th century had been a time of unrest. During this time fashion in footwear reached the greatest extreme during its history. With the revival of learning of the 15th century a de-

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cided change came. As is true today fashion went from one extreme to the other. Dame Fashion decreed that the long narrow toe should be displaced by the short wide toe and she was thoroughly successful. The "slashed toe duck bill" was now very chic. These "Sabbatons", as they were called, were exceedingly wide, sometimes eight and ten inches across. They were made of puffed silk and were slashed, thus affording little protection. Charles V of Germany was the leader in adopting this fashion, who, while suffering an attack of gout found them more conducive to comfort than those he had heretofore worn. Courtiers were quick to see that imitation would be a means of flattering their ruler. It is not surprising that shoes became 8 and 10 inches across in width. Legislation finally prohibited the wearing of shoes which were more than six inches in width.

The invention of the printing press during the 15th century opened a new world of ideas. There were influences in costume from Italy where art had reached its greatest development, and also from Germany, Spain, and France. Curously enough during all these generations, until the end of the 15th century, shoes were generally made of soft leather, and slipped onto the foot with the ease of a glove. A shoe of this sort was unfit for use on muddy streets so the unfortunate wearer must resort to the alternative of wearing wooden clogs over his perishable footwear. This necessity invented the clog, perhaps more popularly known as the "pantoffle". It also increased in proportions, in height, and in elaborateness. These clogs were stilt- like affairs, sometimes over 12 inches in height; and the ladies of that period

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it might well be imagined, presented a most ridiculous appearance, when strutting about the streets like "Walking May poles", supported on each side by attendants. This style of clog was called the "chopine" and doubtlessly came to England from the continent, most probably from the imaginations of Venetian women, where it was especially in favor. The custom struck Shakespeare as grotesque for he points a shaft of humor at it when he has Hamlet exclaim, "Your ladyship is nearer to heaven than when I saw you last, by the altitude of a chopine". The passing of the soft leather shoe and chopine came towards the end of the 16th century with the introduction of the woven stocking. Prior to that time stockings had been tailored from pieces of hard fabric, the seams of which precluded the use of any but the softer kind of shoes. With the woven stocking came the snug-fitting shoe which was the forerunner of the conventional footwear worn today. The sole and heel brought joy to the people but sorrow to the clog makers. Clogs were no longer needed, the heavy shoe was sufficient protection in both rain and shine.

At the time of Queen Elizabeth, 1558 - 1603, ladies' shoes were of many fashions, for there were the corked shoes, pantoffles, and slippers. Light kid slippers of leather, slashed to show the colored hose beneath were very popular as were also the decorations called "shoe roses". Men wore shoes shaped to the foot. The ladies were more fastidious- heels, sometimes six inches high appeared.

During the reign of James I, 1603 - 1625, a number of men took to walking in boots, tall boots, instead of shoes. By the time of Charles I, 1625 - 1649, boots were the custom, and they

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were very tall. Many of them were turned over at the top into a wide cup, all creases and wrinkles, the inside of which was lined with lace or silk. By the time of Louis XIV and Louis XV boots were enormous and profusely decorated.

During the reigns of James II, 1685 - 1689, and of William and Mary, 1689 - 1702, shoe buckles began to displace rosettes. Red heels which were made of aspen wood and covered with velvet brocade were fashionable. They were worn until the reign of George III.

The 18th century was one of many novelties in fashion due to French influence. Styles were fantastic. During the reign of Queen Anne, 1702 - 1714, the style of both sexes was a square-toed, short-quartered shoe with high red heels and small buckles at the instep. Frequently slippers trimmed with green lace and blue heels were seen.

During the reigns of George I and George II shoes increased in height and inconvenience. High boots were worn by horsemen. A buckskin form of boot, which buttoned up at the side was popular. French heels became very fashionable. Scenes of Rhenish victories were painted on the heels.

From 1745 on there began the same jumble as is found to-day, "a hopeless mess to unravel". At the beginning of George III's reign, 1760 - 1820, shoes became more moderate in style and shape, with lower heels and longer quarters, but the ornamentation was extravagant. Buckles were more richly ornamented and were frequently decorated with costly jewels.

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The keynote of styles during the 19th century was adaptation. There were many different styles. People had a special sttire for every function and amusement, but with the enlargement of the wardrobe simplicity of style was emphasized. Greater sanity in dress was easily discernible.

It was natural that with the march of civilization from the old world to the new, there should come a distinctive foot covering suitable to the wild, untrammeled walks of life in America, consequently we find that the first American shoe was a useful, durable and not ornamental affair. It was a heavy, cowhide boot, tanned in oak bark, and was loaded with oil from the fisheries of Cape Cod. The early colonists, no doubt, believed with Calthorp, "A man is a man for all his tailor tells him".

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The following illustrations show some of the oddities in footwear worn by different peoples and at different periods.

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OPANKA

NATIONAL SHOE
OF GREECE



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MOCCASINS

AMERICAN INDIAN

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SANDALS

SOUTH AFRICAN WARRIOR

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CLOG

JAPANESE COURTESAN

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SATIN BOOTS

CHINESE MANDARIN



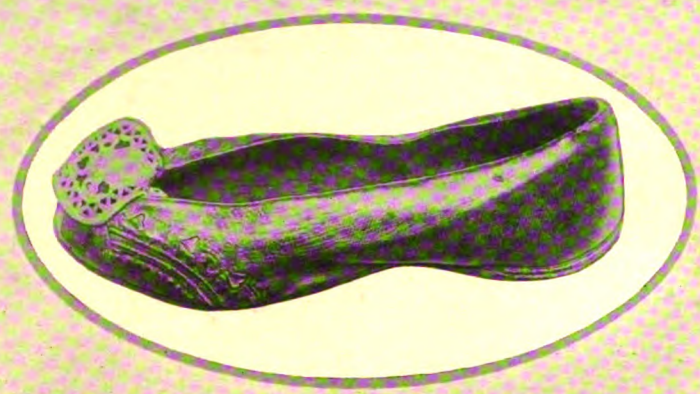
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KLOMPEN

DUTCH FISHERMAN

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HEART SHOES

GERMAN PEASANT BRIDE



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MULE SHOES

ELIZABETHAN LADY



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CLOG

EASTERN
BRIDE



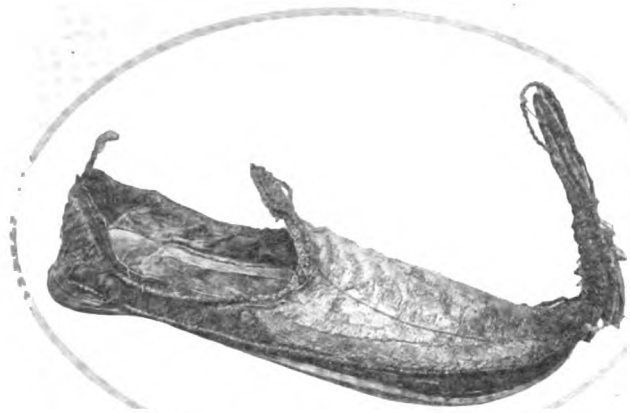
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DUCK-BILL SHOES

XVI CENTURY

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POULAINES

DANDY OF XVI CENTURY



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The engraving here introduced is after a painting found on the walls of Thebes. It delineates the manner of sandal-making by the ancient Egyptians. It will be observed these workmen or makers of feet costume as then worn, similar to the boot and shoe makers' present mode of working, are seated upon low stools; a practice which, doubtless, has always obtained in such employments, as most convenient; for executing and dispatching such manufacture, all the attempts by any other method having hitherto failed; and whether a change in the shoe makers mode of working, alternating between sitting and standing, which for health's sake is desirable, will ever take place, is among the discoveries and the things of the future.

From the "Boot and Shoe Makers' Assistant," Manchester, England, 1853.

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A History of Shoemaking in America.

The early shoemaker was known as a cordwainer. The term "cordwainer" had its origin in the word "cordewaner", a Spanish word coming from Cordova, Spain, a city which exported leather. In 1272 King Henry III of England granted an ordinance which established the "Cordwainers and Cobelers Company of London", "cordwainer" including the currier and tanner of leather as well as he who made it up into shoes, "cobeler" meaning a worker in old leather, the repairer of shoes.

When John Endicott's company came to America and settled in Salem in 1628 no cordwainers or cobelers, if we may so call them, were among them. Nevertheless, they were prepared for the pioneer life they found in America. They were a well equipped company, for each man brought four pairs of boots with him. To supplement these the Indian moccasin, made of buckskin, was adopted by many of the colonists. Moccasins, however, did not satisfy those, who had been used to something better, for a great length of time; neither did the fourpairs of shoes wear forever. A demand for shoes arose. A call was sent to England. This brought to Salem in 1629 America's first two shoemakers, Thomas Beard and Isaac Rickman, who had been sent by the New England Company.

With them came a letter from the Company to Governor John Endicott: "Thomas Beard, a shoemaker, and Isaac Rickman, being both recommended to receive their diet and houseroom at the charge of the company, we have agreed shall be with you, the Governor, or

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placed elsewhere as you shall think good and receive from you or by your appointment, their diet and lodging, for which they are to pay, each of them at the rate of 10 pounds a year. ----- The said Thomas Beard has in the ship, Mayflower, divers hides, both for sole and upper leather, which he intends to make into boots and shoes in the new country.

"We desire also the same Thomas Beard may have some fifty acres of land allotted to him as one that transports himself at his own charge. But as well for him as all others that shall have land allotted to them in that kind and are no adventurers in common sort, which is to support of fortifications, as also for the mystery and divers other affairs we hold it fit that these kind of men, as also as shall, come to inherit lands by their service should, by way of acknowledgement to such from whom they receive their lands, become liable to the performance of some service certain days in the year, and by that service they and their posterity after them to hold and inherit these lands, which will be a good means to enjoy their lands from being held in captive and to support the plantations in general and particular." *

Beard plied his trade in Salem for fourteen years, was made a freeman in 1643, and soon afterwards moved to Portsmouth where he purchased an estate and made his home. Colonial records say nothing of Rickman; he probably returned to England after a short stay in Salem. Beard was followed by Kertland who came seven years after him and who was permitted to become the pioneer shoemaker of Lynn.**

The need for shoes rapidly became more keen, but as industry

*Gannon - A Short History of American Shoemaking - p. 6
**Up to 1909 Lynn was the leading city in America in the manufacture of shoes and shoe materials.

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was difficult to promote in these early colonial days, so surely was the industry of shoemaking. The base of supplies for raw material was on the other side of the great ocean, which necessitated bartering with the Indians for skins. Regardless of how keen the need was for material and workmen the shoemaker had to receive permission from the town to establish his home of shop within its limits. "The colonists wished to keep out undesirable persons".*

The art of shoemaking was a picturesque industry in early New England days. It was not confined to the shoemaker proper. Farmers who raised cattle and sheep, and hunted deer and bear and ate their flesh for food, tanned their pelts into leather by the use of bark from nearby forests in pits in their own yards, and made the leather into shoes for their families. Not only could the farmer conveniently add shoemaking to his occupation, men of other occupations could as well. Whittier describes the fisherman:

" When Keezar sat on the hillside,
Upon his cobbler's form,
With a pan of coal on either hand,
To keep his waxed ends warm.

And there in the golden summer weather
He stitched and hammered and sung,
In the brook he moistened his leather
In the pewter mug his tongue." **

Presently the chimney corner and the open under the trees no longer sufficed. "10 footers" were instituted. These were small shoe shops usually about ten feet square. Herein the shoemaker, attired in leather apron, sat on his bench, and with lap stone, knife, hammer, boot-tree last, wooden pegs and handmade thread, cut, hammered, stitched, and pegged the pegged shoe, the character-

* Gannon - A Short History of American Shoemaking - p. 8
** Whittier - Cobbler Keezar's Vision

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istic shoe of the first half of the last century. The equipment of the 10 footer harmonized with the building. Methods of heating were, as we know, in their primitive stages. Fireplaces and salamander stoves composed the heating systems, and usually one window of 7x9 panes of glass permitted light to fall on the shoemaker's bench. The sciences of sanitation and hygiene were undeveloped as the traditional sandbox beside the stove for collecting the expectorations would indicate. The shoemaker was guilty to a great degree of the sin of chewing and smoking tobacco. The tub of water in which sole leather was soaked was allowed to become stagnant. The foul and germ-laden air, combined with the bent position the shoemaker must assume in his work brought upon him tuberculosis. The death rate among shoemakers from this dreaded disease was high. Factory laws to maintain healthful conditions were unknown.

A Bible, a dictionary, and a newspaper composed the literary embellishment of the establishment. Last Sunday's sermon and the latest congressional measures were topics for discussion and often led to heated debate. In that event a sober shoemaker would strike upon a hymn. The older inhabitants of Salem to-day can tell of the Musical Shoemakers, a "choral union" of early Salem days. Sociability was heightened by the drinking of grog. The literary and social phase of the 10 footer is not to be underestimated. A shoemaker, Roger Sherman, became a signer of the Declaration of Independence, and another, Henry Wilson, became Vice President of the United States.

The shoemaker was diligent and thrifty. It was necessary for him to be so, for shoemaking did not afford him a living. We read of grocers, farmers, and fishermen who made shoes while their business was dull. In panic years they would "draw on the clam

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bank". * Berries, fish, a barrel of pork for the winter "pieced out". A few notable shoemakers who are preeminent for their thrift and industry are David Lefavour, Moses Putnam, Henry Wilson, and Francis Rhodes. David Lefavour was grocer of Marblehead who became more than eighty years old in spite of the fact that he would work all day Friday, all of Friday night, and on Saturday would walk to Boston with his shoes in a bag over his shoulder, sell them and return with a fresh supply of leather for the next week's work.** Moses Putnam, a Danvers young man, who spent fifty seven years in the shoe trade and who built up a large shoe manufacturing business at Putnamville, received his inspiration and determination upon his employer telling him he had no more work for him. He borrowed some leather and supplies, made the shoes, borrowed his father's horse, and with the shoes in the saddlebag travelled to Boston, there to dispose of his first efforts. *** Henry Wilson, another prominent shoemaker, was noted for the rapidity with which he could work; he once endeavored to make fifty pairs of shoes in a week without stopping for sleep, but he fell asleep on the forty seventh pair.**** In 1856 Francis Rhodes of Lynn made by hand seven hundred and ninety pairs of shoes in fifty days. *****

With ambition of this kind it is not surprising that the shoemaking industry gained a hold in America. A few facts regarding its early growth are not out of place. In 1648 a planter of Virginia, named Matthews, employed eight shoemakers on his premises. "In 1698 the industry was carried on profitably in Philadelphia, and in 1721 the Colonial Legislature of Pennsylvania passed an act

* Gannon - A S hort History of American Shoemaking - p.25
** Summary - Ibid - p.23. *** Summary - Ibid - p.23
**** Summary - Ibid p. 23 ***** Summary - Ibid - p.23

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regulating the material and the prices of the boot and shoe industry". * Fifteen years after the arrival of Kertland Lynn was not only supplying its own inhabitants but was sending shoes to Boston. It remained the leading shoe town. In the year 1750 it was given an added impetus, the force of which has remained to modern times. John Adam Dagyar, a Welshman and master-craftsman, who emigrated to America and settled in Lynn, became the first organizer of the industry.

Long before 1750, however, before the industry had grown to this extent, it was necessary that the shoe manufacturer, known as the master cordwainer or as the employer, have helpers. The early economic relation between the master cordwainer and the apprentice is of interest. The apprentice usually served for seven years. An "agreement" between him and his master is the following:

> "And the said master shall use the utmost of his endeavors to teach, or cause to be taught or instructed, the said apprentice in the trade or mystery of Cordwainer, and procure for him sufficient meat, drink, washing, clothing, fit for an Apprentice, during the said term of service and four quarters of night schooling during the said term." **

The itinerant shoemaker must not be forgotten. Before the time when it was necessary to engage apprentices he was an important figure in the industry, for much cobbling was done by him. He was not only of economic value but was an important figure socially, for the travelling cobbler with his kit of simple tools and with the rough and heavy leather of the period was not only a welcome dispenser of service among the colonists but a dispenser of news and gossip.

* Dooley - A Manual of Shoemaking - p.252.
** Allen - The Shoe Industry - p. 31

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The method of an individual man making the entire product was not destined to be the permanent method in shoe manufacturing as it has not been in the manufacturing of any other article. Division of labor came early, for the making of a shoe, even at this early date, consisted of several individual operations. It did not take the master workman a long time to discover that he could increase his income by keeping the men he had trained at home and directing their work, by putting them at the work for which they were best fitted, be it cutting the soles, cutting the uppers, stitching the uppers, or pegging the soles to the uppers. Lucy Larcom describes "Hannah at the window binding shoes", and we learn from her that the boot and shoe industry, which affords support to so many women to-day, began very early to employ women by sending out work to the homes. That part of the making of the shoe upon which they began their careers is the occupation which is almost exclusively theirs to-day, the stitching or vamping of the uppers.

An exemplification of a form of division of labor used in the first half of the last century, which endured until the introduction of machinery is the "team and gang method". A team was a group of men who made an entire shoe. The members of the team were divided into three sections generally, those who cut and fitted the uppers, those who prepared the soles, and those who fastened the soles to the uppers. A gang was a group of men who made part of a shoe. A gang of fitters or bottomers, for instance, went from employer to employer, engaged to him by contract to fit or bottom, as the case might be, all of his shoes which were ready for fitting or bottoming. The contract system was the popular method of making shoes. The manufacturer had a room in the shoe district where he cut the uppers and kept his stock;

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he would then enter into a contract with some man to fit them. When the uppers were fitted he would contract with another gang to bottom them.

By 1795 the evolution of the system had reached a stage where in Lynn alone there were 200 master workmen, employing 600 journeymen, and turning out 300,000 pairs of shoes a year. The entire shoe was made under one roof and generally from leather that was tanned on the premises. At this early date New England, of course, led in the industry, there were a few shoemakers in New York, and practically none in the agricultural South. New England was called upon to supply shoes for all the colonies; she sent them to the colonies in barrels and over ox-wagon roads. Nevertheless the shoe traffic had a substantial beginning.

The Revolution marks an important change in the development of America's boot and shoe industry. America still suffered competition from the shoemakers of England and France, who continued to send shoes to her at a small figure. A zealous American, a Welchman by descent and known as "The Celebrated Shoemaker of Essex", John Adam Dagyar, before giving his life in the Revolution, fought foreign competition by cutting up and studying the European shoe, endeavoring to improve on it, and by urging American women to buy their shoes of him. The efficacy of his efforts, which are not to be undervalued, was exceeded by the use of a more effective weapon, the tariff. Ebenezer Breed, the first great leader in the American shoe manufacturing industry, proposed that Congress put a tariff on shoes and maintain it until American shoemakers secure a firm start. This event was marked by a splendid dinner in Philadelphia, to which Breed invited noted leaders in American politics. He made a grandiloquent speech, urging the establishment

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of a tariff on shoes. He was supported by Hamilton, Madison and other leaders in American politics and carried his point. Congress put a tariff on shoes and foreign footwear was shut out. The American shoe manufacturing industry began to prosper and it has been prospering ever since. It owes a debt of gratitude to Breed for services in conceiving and establishing a protective tariff of shoes.

The industry had developed to this point without the use of a machine. Of the 300 different machines made to-day and of the more than 4000 United States patents which have been granted on shoe machinery three are strikingly important and represent three conspicuous stages of development in the invention and use of shoe machinery. The first stage is that of the stitching machine which stitches together the parts of the shoe which form the upper. The second is that of the sole sewing machine which sews the sole and upper together. The third, the machine welting, is an improved method of sewing the sole to the upper to make the shoe more flexible. A narrow strip of leather, called the welt, is inserted between the sole and the upper before they are attached.

Not until 1815, a little more than a century ago, was the first machine used, and it developed the shoe industry slightly, for it was merely a machine for making pegs. Up to this time the sole and upper had been fastened together with heavy thread which was waxed, the so called "wax ends". Not until twenty years later was the second machine invented, and it met with indifferent success. In 1833 a machine to drive the pegs was invented, but none came into general use until 1857. The first machine to be widely accepted was the "rolling machine" which, under pressure,

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rolled the sole leather into shape and solidified it. (Formerly this operation was performed with lapstone and hammer).

1852 is an important date in the history of the shoe industry; it marks the perfection of the sewing machine by Elias Howe. The history of the sewing machine and its introduction into the boot and shoe industry is of exceedingly great importance. As early as 1755 patents on a sewing machine were secured by an Englishman. About 1820 a Frenchman made a machine that took 200 stitches a minute, but a mob destroyed it. Napoleon played a part in the development of the shoe industry by offering a reward for a sewing machine - he wanted clothes for his soldiers. It remained for a Yankee mechanic, Elias Howe, who was brought up on a farm and who worked in the machine shops of Lowell, Massachusetts and Cambridge, to invent the sewing machine. He was not inspired by Napoleon's rich rewards, but by the hope of relieving his wife of some of the family sewing. He secured his first patents in 1846 but he had no means with which to build sewing machines. Therefore he accepted an offer from a corset manufacturer in England. This proved to be a disappointment. He returned to New York penniless and to find that machinery manufacturers were building sewing machines on which he held patents. "His adversity soon turned to prosperity".* He brought suit against the manufacturers and gained his patent rights. Royalties were paid him and he became a rich man.

Contemporaries of Howe were Wilson and Singer - Wilson patented the moving feed bar and Singer, the presser foot. The idea of

* Gannon - A Short History of American Shoemaking - p. 34

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using the sewing machine to sew shoes was conceived by John Brooks Nichols, a Lynn tailor and shoemaker. He used the same machine for trousers and shoes; for the shoes, however, he had special threads made, filed the needles into many shapes, and varied the movements of the machine. Nichols went to Wm. B. Bliss, who had advanced the money to Howe to fight his patent suits, and the firm of Nichols, Bliss & Co. of Boston came into being. In their store they set up the wonderful macnine that sewed shoes, and shoemen "came far and wide to look upon the wonder".*

It is at this point that many women were taken from their homes to the factory by leaps and bounds. The stitching of the upper which had been their work primarily and was done by hand, was now done on the sewing machine. Their earnings which were $2.00 and $3.00 a week advanced to $5.00 and $10.00 a week. At present they are earning $25.00 and $30.00 for this work. In the home all the work of stitching a shoe upper was done by one woman, who patiently plied her needly all the way round the seams. In the modern factory the labor of stitching a shoe upper is divided among thirty women, for the work is sub-divided to such an extent that it consists of thirty different operations for which thirty different machines are used.

When the Civil War came on shoemakers left their shoes on the benches just as Putnam left his plow in the furrow. Moreover Congress contemplated removing the tariff on shoes. A crisis was averted, however, by Colonel Gordon McKay who brought forth a machine which sewed the soles of shoes to the uppers. He not only averted a crisis but revolutionized an industry by

* Gannon - A Short History of American Shoemaking - p.34

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"the McKay machine". A man by the name of Lyman R. Blake invented the machine. As a boy he worked in a shoe factory during school vacations. Before he was twenty one he bought an interest in a shoe manufacturing concern. His ambitions led him to the idea of making a machine which would sew soles to uppers, but his partners were not sufficiently enthusiastic to give him company's time and money to work out his idea. He worked evenings and succeeded in making a machine that would sew shoes, and which was destined to overthrow shoe manufacturing methods since the time of Thomas Beard. Blake's capital, however, was limited. He, therefore accepted an offer of Colonel Gordon McKay, - $7,000. for his patent rights, $8,000. to be paid in cash, and $62,000. from the profits of the company. While Blake was in Virginia running a retail store McKay was forced to employ other mechanical experts, but they could not make the machine run successfully. Blake returned and mastered the machine. "He made the machine sew shoes",* and revolutionized an industry. Lincoln's prediction to the mayor of Lynn, "The day of the little country shops is at an end. Shoes will be made in big factories in cities", came true. This machine drew shoemakers from the country to the machine-equipped, power-driven factories in the cities. The result was decreased hours of labor, increased product, increased wages, and better health. The McKay machine required men to stand up while they worked, and in consequence, tuberculosis, resulting from the cramped position it was necessary heretofore to assume, diminished.

Coincident with the introduction of the McKay machine came

* Gannon - A Short History of American Shoemaking - p. 38

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the cable nailing machine, which was provided with a cable of nails - the head of one being joined to the point of the other. The machine separated these nails and drove them automatically. At about this time the screw machine, which is widely used as a sole fastener on heavy boots and shoes, was invented. It is a prototype of the rapid standard screw machine, a comparatively recent invention, which is used as a sole fastener for the heavier boots and shoes. It formed a screw from brass wire, forced it into the leather, and cut it off automatically.

The third great development in the history of shoe making is attributed to Goodyear. He was not the originator or inventor but, like McKay, adapted and promoted the inventions of shoe worker and mechanic. The McKay shoe could not compete with the hand sewed shoe, for in sewing the upper directly to the sole it left a rasping ridge on the inside of the shoe. In making a shoe by hand a narrow piece of leather, called the welt, is first fastened to the insole and upper, the heavy outsole is then sewed to the welt, bringing the stitches to the outside of the upper. In 1862, a New York mechanic, Auguste Destony, invented a machine with a curved needle for sewing turn shoes. It was improved by as many as eight different mechanical experts employed by Charles Goodyear, a son of the man who taught the world the use of rubber. This machine was later adapted - patents on it were secured in 1871 and in 1875 - to attaching the welt to the upper, and gave origin to the famous Goodyear stitching and welting machines. These two machines are the nucleus of the Goodyear welt system to which must be attributed the revolution of an industry. Although they are entirely distinct machines they are inseparable, for nei-

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ther can be used effectively without the other in making the modern Goodyear welt shoe. The Goodyear machines did even more than the McKay machine to multiply product, increase wages, and improve footwear. The custom made process of making shoes by hand cost from 20 to 25¢ a pair for sewing the welt to the upper, and from 40 to 50¢ a pair for sewing the sole to the welt. The Goodyear welt machine reduced the cost of sewing both welt and soles to 10¢ a pair, of which 4¢ was paid for the use of the machine and 6¢ for labor.

Closely following the Goodyear machines - about 1877 - came machines which improved the various processes having to do with the heeling of the shoe. The first machine invented to be used in connection with heeling compressed the heel and pricked holes for the nails. This was followed by a machine which drove the nails, which in turn was followed by one which not only nailed the heel, but which trimmed it. At about the same time came the machines to finish the heel and forepart. They were provided with tools heated by gas or electricity which rubbed the edges for the purpose of polishing them.

For a good many years after it was possible to sew shoes by machinery it was still necessary to last them by hand. Much of the style of a shoe depends upon the wooden last over which it is shaped before being attached to the sole. The men of the shoe trade were the lasters. They commanded wages of from $20. to $50. a week, for their work demanded skill. This we can infer from a remark made by a Lynn laster, "No matter if the McKay machine is a wonderful machine, no man can build one that will last shoes unless he can make a machine with fingers on it like a last-

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er". His success was not immediate; his first two models were failures. He was taunted by fellow shoemakers and cheered by machine makers. His third model was successful enough for a company to buy his patents, but he died of tuberculosis before a fourth and satisfactory model was completed. The fourth model was fitted with pincers which drew the upper round the last and drove a tack to hold it in place in one operation. One veteran laster used to say that the machine revenged Matzeliger for the hand lasters who taunted him, singing as it worked, "I've got your job, I've got your job". This hand method machine, commonly called the "consolidated hand method lasting machine", perfected in 1883, revolutionized the lasting of shoes. It can last 200 to 700 pairs of shoes a day, depending on the grade of shoes; one hand laster can last fifty pairs of shoes a day.

The "hand method pulling over" machine, a device which prepares the shoe for the lasting machine, was introduced early in the 20th century. It is fitted with adjustments whereby the operator is enabled to quickly center the shoe upper on the last and on pressure of a foot lever, the machine automatically draws the upper closely to the last and secures it in position by tacks. "It is the acme of shoe machinery intricacy and accuracy, and years of study, and over $1,000,000. were spent in its development".*

Very recently the clicking machine for cutting the uppers has been devised. Thus one after another every operation has yielded to invention. There are machines for shaping, compressing, and nailing heels; for attaching soles to uppers in heavy shoes by

* Allen - The Shoe Industry - p. 61

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wooden pegs or copper screws and wires; for rounding, buffing, and polishing the soles; for trimming and setting the edges of the sole; machines large and small, simple and complicated for making the various lesser parts of a shoe and its accessories, such as heels, counters, tips, eyelets, buckles, nails, thread, laces, polishing brushes, and so on, so that in shoe factories to-day a greater variety of intricate and expensive machines is used than in factories of any other kind. There is no important operation of a shoe which need be done by hand. In the making of every shoe no less than 58 different machines, sometimes twice that number, are brought into play, nearly all of American invention.

A unique development of the shoe industry must be considered at this point. 98% of the many machines used in the shoe factories of America to-day, excepting those used for the stitching of the uppers, which are in the hands of the Singer and other sewing machine companies, are made by one concern, the United Shoe Machinery Company, whose factory employing 5000 persons is located at Beverly, Massachusetts. This means that the machinery used in the manufacture of shoes has been standardized, an important factor in explaining the growth of the endustry in the last twenty years. The United Shoe Machinery Company was formed in 1899 by consolidation of three companies, none of which was in competition with anyone of the other two. The three companies were the Goodyear Shoe Machinery Company, which made machines for sewing the sole to the upper in welt shoes, and various auxiliary machines which were used to perfect the shoe; the Consolidated and McKay Lasting Machine Company, which made machines for lasting the shoe; the McKay Shoe Machinery Company, which made machines for attaching soles and heels by me-

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tallic fastenings, and furnished material for that purpose.

The capital of this concern was $25,000,000. and its first officers were: President, Sidney W.Winslow; Vice Presidents, J. H. Hanan, W. F. Robinson, and Orland E. Lewis; Treasurer and General Manager, George W. Brown. Colonel Gordon McKay probably furnished the inspiration for this consolidation but the organization and development of it was brought about largely by Sidney W. Winslow and George W. Brown.

Winslow developed the Naumkeag Buffing Machine Company, brought old established gas companies up to modern standards, joined George W. Brown and others in developing the Consolidated Lasting Machine Company and in marketing the invention of Matzeliger. Next he, Mr. Brown, Colonel McKay and others developed the United Shoe Machinery Company and Mr. Winslow was chosen its first president. Mr. Brown joined with Mr. Winslow in promoting the Hand Method Lasting Machine Company of which he vecame Treasurer and General Manager. "The objects arrived at by this concentration", said a trade paper of the time, "are increases in business economies of administration and cessation of patent litigation between companies, which have been expensive to them and annoying to shoe manufacturers".*

The progress of the United Shoe Machinery Company amazed its promoters, the shoe trade, and the public. It absorbed small shoe machinery companies until it controlled 98 % of the shoe machinery business of the country, not including the stitching room machinery business which is in the hands of the Singer and other sewing machine companies. During the period from 1900 to 1910 it increased its capital from $18,290,218. to $34,125,638., its earnings from $1,700,100. to $5,640,000., and its surplus to $18,542,220. During the

* Gannon - A Short History of American Shoemaking - p. 45

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same period American shoe manufacturers increased the value of their product from $320,107,000. to $442,631,000., an increase of 38 %. They increased wages from $69,059,000. to $92,359,000., an increase of 34 %. Sales of shoes abroad increased to approximately $16,000,000. annually. United Shoe Machinery Company machinery and shoe experts were sent round the world, and American shoe manufacturing methods were adopted in factories in Norway, Central America, in many cities of South America, in England and all countries of Europe, in Africa, Australia, and even in China, Japan, and in the Philippines. "It is very much to be doubted if this extensive development of the shoe machinery business, its splendid improvement in means of production, its large gains in sales of machinery at home and abroad, and its distribution of profits and wages, could have been accomplished by any other means than the formation of this big shoe machinery company with its large accumulation and concentration of capital, brains and experience in its particular branch of industry."*

Colonel Gordon McKay, who was the chief promoter of this company, recognized the value of machinery to the industry and to the public. He figured when planning to market the McKay machine that he might build 4000 machines at a cost of $30. a machine, and sell them at $350. apiece, thereby making a profit of $1,288,000. But he also realized that this profit, though large, would stop when all factories were equipped with machines, and that the presence of old machines in factories would be a serious obstacle to the sale of improved machines. So he determined to lease them and charge

* Gannon - A Short History of American Shoemaking - p. 47

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them a certain amount for each pair of shoes sewed on the machine. The charge ranged from 1¢ to 5¢ a pair, according to the size and quality of the shoes. This is known as the Royalty system, and by it the United Shoe Machinery Company leases machines to shoe manufacturers, large or small, for which the average royalty paid for the use of all machines in the manufacture of all types and grades of shoes is less than 2 2/3¢ per pair of shoes. (This is for 1914) The small manufacturer has the same opportunity as the big manufacturer, and can start a business without making a big investment in machinery. The United Shoe Machinery Company furnishes more than the use of the machines; it installs them, keeps them in running order, and instructs the operatives.

Colonel McKay set aside a block of stock of the McKay Sewing Machine Company as a "Shoemakers' Gift Enterprise". He agreed to give one share of stock, worth $5. per share par, with each $100. worth of stamps. On this system many machines were leased. The income of the McKay Company from the sale of royalty stamps was $750,000. annually. Dividends paid by the Company from 1865 to 1875 totalled $1,802,138. The royalty income ceased when shoe manufacturers taking advantage of the expiration of the fundamental patents on the McKay machine refused to buy any more royalty stamps.

When the United Shoe Machinery Company was formed it applied to its business this royalty system. It offered to provide manfacturers with "anything from a tack to a complete factory equipment"* and to lease for a period of nineteen years any of its essen-

* Gannon - A Short History of American Shoemaking - p. 50

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tial machines for a small royalty payment and to supply auxiliary machines at nominal charges. It declined to sell outright any of its chief machines. It furthermore agreed to keep its machines in first class repair. Leases of the United Shoe Machinery Company are in force in about 98 % of the shoe factories of the country. Some of them require the lessee to use in conjunction with certain leased machines, auxiliary machines, supplies and parts. The clauses fixing these requirements are called "tying clauses".

The lease system in general and the tying clauses in particular have been attacked by some shoe manufacturers. A certain shoe manufacturer, R. H. Long, of South Framingham, was successful in getting a law passed in Massachusetts in 1909, permitting shoe manufacturers to use any auxiliary machines they wished in conjunction with United Shoe Machinery Company machines. He established a shoe machinery shop and built machinery for use in his own shoe factory. In 1911 western shoe manufacturers formed the Shoe Manufacturers' Alliance. They induced to join with them a number of eastern shoe manufacturers, notably Charles H. Jones, President of the Commonwealth Shoe and Leather Company of Whitman, Massachusetts. The Alliance manufacturers demanded of the United Shoe Machinery Company that it lower its royalty charges and permit lessees to use such auxiliary machines and supplies as they wished. As their demands were refused they established the Non Royalty Shoe Company, which concern equipped a shoe factory in St. Louis with non-royalty machinery purchased from a score of independent shoe concerns in this country and in Europe. The Alliance manufacturers hoped to demonstrate in this Non Royalty factory that it is more economical for shoe manufacturers to buy machinery outright, also sup-

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plies and parts, and secure repairs according to their individual desires, than it is to lease machines, buy supplies and parts, and have repairs made by the United Shoe Machinery Company. The latter has steadfastly held that if it should sell shoe machinery outright and require shoe manufacturers to pay cash for their machines it would be impossible for ambitious men with limited capital to start making shoes. It further declared that the small manufacturer would be unable to buy new machines as they appeared and would be forced out of business by more wealthy rivals. The eventual outcome would be to force the small manufacturer from business, leave the way clear for the large manufacturer, and for the formation of a shoe trust.

While the United Shoe Machinery Company declared itself against the formation of a shoe trust, the United States government prosecuted it for maintaining a shoe machinery trust. "It failed 'to make its case', i. e. to prove its contention that the United Shoe Machinery Company was a monopoly in restraint of trade and that shoes could not be made in a commercial way without the machinery of the United Shoe Machinery Company."*

To appreciate the magnitude of the United Shoe Machinery Company is to appreciate the method of making shoes to-day. The United Shoe Machinery Company makes the machines which make the shoes. Sixty machines are necessary to make a pair of shoes. The twentieth century shoe is therefore almost a machine made product.

* W. F. McElroy, President of the McElroy Sloan Shoe Company (A Non Royalty Shoe Company), St. Louis, Missouri.

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The photograph which follows shows the interior of the Tapley Shop, a 10 - footer of the early 19thcentury. It is preserved to-day in Essex Institute, Salem, Massachusetts.

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The Magnitude of the Boot and Shoe Industry of Recent Times.

The growth of the boot and shoe industry in the United States in the last thirty of forty years has been marvelous. To clearly understand the magnitude of the industry of modern times we must note the three types of factories existing. 1. Those establishments whose chief products are finished boots and shoes; 2. those whose chief products are boot and shoe cut stock, such as soles, heels, tips, inner soles, top lifts, etc.; 3. those whose chief products are boot and shoe findings, such as shoe pegs, box toes, arch supporters, shoe tacks, toe caps, heel caps, buckles, rands, staples, bows, clasps, back stays, linings, fiber parts, leather board parts, counters, shanks, trimmings, pipings, eyelets, etc. Many factories whose chief products are finished boots and shoes make their own cut stock and findings.

1879 to 1909 represents a period of steady and rapid growth; the value of the products of the industry in 1909 was nearly three times as great as in 1879. Of the 1,918 establishments reporting in 1909, 1,343 or 70% were engaged in the manufacture of boots and shoes, these establishments making products to the value of $442,630,726. or 86.3 % of the total value of products for the industry as a whole. Establishments engaged in the manufacture of cut stock formed about 1/8 of the total, and the value of their products was $44,661,497., representing 8.7 % of the total. Establishments engaged chiefly in the manufacture of boot and shoe findings formed somewhat more than 1/6 of the total, and the value of their products, $25,505,419., represented 5% of the total. The increase in the value

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of products in 1909 over the value in 1879 is due in part to the advance which has taken place in the prices of materials, but is due also to increased quantity of output. The number of pairs of boots and shoes made was more than doubled in the thirty years.

Table I gives the principal data for 1914 and 1909 for the industry by classes, including regular shoe factories, factories specializing, and factories making footwear not strictly boots and shoes.

Massachusetts is virtually the birthplace of the boot and shoe industry, and, incidentally, of the tanning industry. It has led in the industry ever since the birth of it, a period of 300 years. It has 63 cities and towns in which the shoe manufacturing and allied industries are carried on. It has one county, Essex, which produces one seventh of the combined boot and shoe/leather product of the United States. In 1916 Massachusetts had in the boot and shoe, cut stock, and findings industries about 875 establishments with more than $90,000,000. invested capital, 83,000 wage earners, and an annual value of product of $236,000,000.

Table II shows the growth of the industry from 1879 to 1914. The greatest increase occurred from 1904 to 1909.

In number of establishments	the increase	was	2.1 %
" persons engaged	"	"	25.4 %
" salaries and wages	"	"	41. %
" cost of materials	"	"	40.6 %
" value of products	"	"	38.3 %

Very few industries have been more affected by the introduction of machinery than the boot and shoe industry, and to this

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Table I — Extent of the Boot and Shoe and Allied Industries

		Number of Establishments	Value of Products
Boots and Shoes Total	1914	1355	501,760,458
	09	1343	442,630,720
Regular Factory Product	1914	1248	489,144,745
	09	1228	438,443,370
Stitching	1914	24	382,209
	09	30	530,164
Crimping	1914	4	9,732
	09	5	17,384
Buttonholes	1914	8	30,540
	09	4	30,456
Overgaiters	1914	33	1,818,287
Moccasins	09	58	2,830,430
Leggings			

Census of Manufactures, 1914
Volume II, Reports for Selected Industries and Detailed Statistics for Industries by states - page 687

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Table II

	1879 / 1959
Number of	
Persons E	*
Salaries	001,438
Cost of M	142,442
Value of	250,354

* Figure

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fact may be attributed the relatively small increase shown in the average number of wage earners during the thirty years from 1879 to 1909. The application of machinery, in addition to reducing the number of wage earners required for a given product, no doubt caused the displacement of many highly skilled wage earners by less skilled employees to whom lower wages were paid.

Between 1899 and 1909 the number of wage earners in the industry as a whole increased 31.1 %, the amount paid in wages 59 %, the cost of materials 73.8 %, the value of products 76,8 %, and the number of pairs of boots and shoes made 30.8 %. The difference between the last two percentages is doubtless due in part to advance in prices, but it may be attributable to a relatively greater increase in the production of high grade products than in that of products of lower grades.

The value of the manufactured product of the boot and shoe industry in the United States is exceeded by only one other, that of the textile industry. Thirty three states in the Union manufacture shoes. In 1919 they ranked as follows, the numeral indicating the number of establishments in the state.

Massachusetts	499	California	9	Nebraska	2
New York	266	Virginia	8	West Virginia	2
Pennsylvania	129	Kentucky	8	Oregon	2
Missouri	67	Washington	7	North Carolina	2
Wisconsin	64	Iowa	7	Georgia	2
Ohio	51	Indiana	6	Alabama	1
New Hampshire	50	Connecticut	6	Colorado	1
Illinois	45	Kansas	3	Tennessee	1
Maine	44	Louisiana	3	Utah	1
New Jersey	42	Texas	3	Vermont	1
Michigan	18				
Minnesota	14				
Maryland	12				

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In 1914 81 % of the total production in the United States was found in six states. They ranked as follows in the order named, the percent of the industry which each state controlled being indicated.

Massachusetts -	40 %	Missouri -	8 %	Ohio -	6.5%
New York	13.4%	New Hampshire-	7.5%	Pennsylvania -	5.5%

Table III represents a comparison of the twelve leading states in 1914, giving the number of establishments, the number of wage earners, and the value of the products for each state, and makes a comparison of the rank of these states in 1914 and in 1909. In 1914 there were 1355 establishments manufacturing boots and shoes. They employed 191,555 wage earners who produced goods to the value of $501,760,458.

Massachusetts led the other states with an output valued at $200,529,858. This amount was 40 % of the total value of products reported for the United States, and though the proportion is slightly less than in 1909 and in 1904, there was an actual increase, as compared with 1909, of $13,484,091. or 7.2 %.

New York ranked second with a value of products of $67,288, 809. representing an increase of $22,863,677. or 51.5 % over that reported in 1909. New York contributed 13.4 % to the total and showed a greater actual increase for the five year period, 1909-14, than any other state.

Missouri showed a decrease in the value of products but held third place, the position she occupied in 1909. She contributed 8 % toward the total value as against 9.6 % for 1909.

New Hampshire with a product of $37,664,039., forming 7.5 % of the total value, ranked fourth.

There was little change in the ranking of the states in 1914

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as compared with 1909. In 1914 Wisconsin ranked eighth, changing places with Illinois, which held this place in 1909; New Jersey, ranking tenth in 1914, changed places with Minnesota; and Michigan, holding twelfth place in 1914, changed places with Virginia, which does not appear in the table for 1914.

In 1914 the extreme eastern states, Maine, New Hampshire, Massachusetts, New York, New Jersey, and Pennsylvania, six states, contributed 72.6 % of the total value of products for the industry; Ohio and Illinois reported 9.9 % of the total; Missouri, 8 %; Minnesota, Michigan, and Wisconsin, 5.8 %; and the twenty one other states, 3.7 %. The three New England states, Massschusetts, New Hampshire, and Maine, produced more than one half of the footwear manufactured in the country.

Ever since the inception of the industry into this country, the East, led by Massachusetts, has predominated in the production of boots, shoes, and slippers. Table IV which gives the rank of the leading cities of the industry for 1904, 1909, and 1914 bears this out. We note Lynn second to the top, and we are probably surprised that it does not lead. Lynn has had a remarkable record. It led the United States in the manufacture of boots and shoes from earliest colonial times to the year 1900.* In the 1900 census the city of Brockton, Massachusetts, reported the largest production, but Lynn followed with a close second. This was true in the census of 1904 also, but in 1909 Lynn again ranked first. It dropped back in 1914 when Brockton reported

* "Fifteen years after the arrival of Kertland Lynn was not only supplying its own inhabitants, but was sending shoes to Boston. It, however, remained the leading shoe town." Dooley - A Manual of Shoemaking - p. 252 .

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products valued at $35,032,665., the largest amount ever reported by any city. Brockton and Lynn each reported a value of products of over $30,000,000. at both the 1914 and 1909 censuses. Haverhill, Massachusetts, ranked third, and New York, fourth, in 1914, while St. Louis dropped from third place to fifth. The twelve cities given in the table report a combined product which forms over 40 % of the total for the United States.

As has been shown, the center for the boot and shoe industry is Massachusetts. Four cities, Brockton, Lynn, Haverhill, and Boston, make up this center. They, with the surrounding towns, contributed in 1914 $103,672,843. or 20.7 % of the total value of products for the United States.

The following tabulation presents statistics concerning the legal organization of establishments in the industry for 1914 and 1909 for fourteen of the more important states.

	Number of establishments owned by		
	Individuals	Corporations	All others
United States 1914	387	686	282
1909	435	610	298
California	2	9	5
Illinois	16	23	8
Maine	6	38	6
Massachusetts	147	188	129
Michigan	4	18	2
Minnesota	2	12	--
Missouri	3	46	--
New Hampshire	9	36	10
New Jersey	9	21	12
New York	103	87	45
Ohio	6	52	4
Pennsylvania	37	61	33
Virginia	--	6	2
Wisconsin	11	45	5

*see back

Corporate ownership controlled 50.6 % of the factories in 1914 as compared with 45.4 % in 1909. These factories reported about th three fourths of the value of the products at both censuses,

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* Census of Manufactures, 1914
Volume II, Reports for Selected Industries and Detailed Statistics for Industries by States, p. 691

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and gave employment to practically the same proportion of the average number of wage earners.

"During recent years there has been a tendency to a growth of large establishments. In 1914, 53.5 % of the total value of products was found in establishments, each of which had a product value of $1,000,000. and over. 96 % of the total value of products was found in establishments, each having a value of $100,000. and over, leaving only 4 % in establishments valued at less than $100,000. each. The establishments having a value of products amounting to $100,000. or more each, represented 52 % of the total number of establishments." *

The following tabulation verifies this tendency.

Value of Product	1909	1914
Less than $5,000.	127	138
$5,000. to $20,000.	228	210
$20,000. to $100,000.	303	303
$100,000. to $1,000,000.	563	567
$1,000,000. and over.	122	137

*see back

For 1914, 137 establishments, or 10.1 % of the total number in the industry, each reported products of $1,000.000. or over in value, as compared with 122 establishments or 9.1 % of the total for 1909. For 1914 these 137 establishments reported 50.3 % of the average number of wage earners, 53.5 % of the value of products; for 1909 these figures were 46 % and 49.6 % respectively, showing a marked tendency toward concentration in the short period of five years.-- In 1914 the small establishments, having products of less than $5,000. in value-- although representing 10.2 % of the total number-- reported less than 1/10 of 1 % of the value of products, proving

* Federal Trade Commission - Report on Leather and Shoe Industries. August 21, 1919.

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* Census of Manufactures, 1914
Volume II, Reports for Selected Industries and
Detailed Statistics for Industries by states, p.698

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again that the greater amount of the product, by far, is turned out from large establishments. In 1914 the largest group of establishments was reporting products valued at $100,000. to $1,000,000. This group comprised 41.8 % of the total number and reported 42.7 % of the total value of products.

Table V shows the distribution of factories among the states, for 1914 and 1909, according to method of manufacture. -- Of the total number of boots and shoes manufactured in 1914 41.4 % were made by the welted method, and 37 % by the McKay method; of the total number in 1909 35.3 % were welted and 43.2 % McKay, showing that in 1914 there were more welts and less McKays, showing a tendency toward the better method of making shoes, a natural tendency. Nearly two thirds of all mens' shoes were welted while the large majority of boys' and youths' shoes were McKay. Of women's shoes 35 % were welted, 45.4 McKay, the remainder turned. Of the total number of slippers, one half were turned, most of which were women's slippers. Of boys' and youths' slippers, there were more McKay than turned. Of infants', 90 % were turned.

In 1914 the number of welted shoes outnumbered all others in the states of Massachusetts, New York, Illinois, Minnesota, and Michigan. The same may be said of Illinois, Minnesota, and Michigan for 1909; in Massachusetts there were more McKay than welted, and in New York more turned were produced than any other kind. All the other states (listed in the table) manufactured in 1914 more footwear by the McKay than by any other method except Pennsylvania and New Jersey which show the largest number of turned. In addition the table shows that states in which the McKay or turned method predominated in 1914 reported the same in 1909, except Maine; Maine shows welted as the largest class in 1909 and McKay as the largest in 1914.

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succeeding year of 1905 were as follows:

1870 -	$ 419,612.
1880 -	441,069.
1890 -	662,974.
1900 -	11,276,656.
1905 -	8,057,697.
1906 -	9,142,748.
1907 -	10,666,949.
1908 -	11,469,559.
1909 -	10,305,814.
1910 -	12,408,575.
1911 -	13,746,842.
1912 -	16,009,002.
1913 -	18,547,840.
1914 -	18,229,714.
1915 -	24,934,807. *

The tables and figures which have been presented should give an understanding of the magnitude of the boot and shoe industry of modern times in the United States. This magnitude proves the existence of a great economic and social system, it proves the result of American ambition and inventive genius, and is a powerful illustration of twentieth century progress. To enhance our appreciation of what American industry has accomplished we have but to present to our mind's eye a lapstone, awl, and hammer of one hundred years ago and a machine such as the Consolidated Hand Method Lasting Machine, or the Duplex Eyeletting Machine, or any one of the sixty machines used to-day.

A typical shop of a century ago wherein the "lapstone, awl, and hammer method" was used was the Tapley Shop of Lynn. In it shoemakers toiled upon their individual responsibility. Specialization was unknown, for each shoemaker made a pair of shoes completely. He used the "hand method", and if he made a pair of shoes a day his output was large.

* Census of Manufactures, 1914 Volume II, Reports for Selected Industries and Detailed Statistics for Industries by States - p. 696

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A typical shop of 1850 or '60, just before the McKay Sewing Machine revolutionized the industry - when "devices" supplemented the work of the hands - was the shop owned by Christopher Robinson & Company of Lynn. It was a brick factory, 57x28, two stories high. Its cellar was used for storing sole leather, its first floor for cutting upper leather and for offices, and its second floor for receiving the manufactured shoes as they came from the employees, and for shipping them to consumers. This firm employed nine men to cut leather, and sent out the parts which were to become the uppers to 375 men and women to be made up at home. It produced 115,000 pairs of shoes worth $115,000. each year. Its daily output was 365 pairs.

A typical factory of to-day, the age of machines, is that of George E. Keith Company of Brockton. This firm began in 1874 with a capital of $1,000., ten employees, and an annual product valued at $20,000. In 1910 it had nine factories employing 5,000 persons; its sales amounted to $12,000,000; and its capacity was 20,000 pairs of shoes a day.* The Keith Company made more shoes in a week than the Christopher Robinson Company made in a year, and the Christopher Robinson Company made more shoes in a day than the Tapley Shop made in a year.

The outline synopsis on page 55 and the graph on page 56 give a bird's eye view of the development and growth of the industry in the last century. There are roughly two main periods, the early struggling period, the time of domestic and town economy when there were no machines, and the later period of greatly accelera-

* The Keith Company is bigger to-day than it was in 1910. There are other firms that claim to be bigger; some claim a capacity of more than 50,000 pairs of shoes a day.

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ted growth, the time of industrial economy when the machines and the factory flourished.

The "Industrial Revolution" for the manufacture of boots and shoes came at about the middle of the 18th century. It was due principally to the McKay Sewing Machine. Other machines which were of potent influence were the Consolidated Hand Method Lasting Machine, the Rex Pulling Over Machine, and the Goodyear Stitching and Welting Machines. These machines were a powerful impetus to the development of the industry. Small wonder that there was a very decided revolution when the industry possesses machines like the Welt Sewing Machine which makes 500 stitches a minute.

The boot and shoe industry which was started on so simple a scale by Beard and Rickman in early colonial days has become one of the chief industries of the nation. "It employs, according to the United States census for 1909, 185,116 shoe workers, who were paid $92,359,000. in wages. There were engaged in it 1343 firms with a capital of $197,000,000. They produced 247,643,197 pairs of shoes worth $442,631,000."* The growth of the boot and shoe industry in the last thirty of forty years has indeed been marvelous.

* Gannon - A Short History of American Shoemaking, p. 63

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An Epitome of the Boot and Shoe Industry.

Early Period

Domestic & Town Economy

tools & "devices"

home, itinerant, shop

1810 - Tapley Shop	1 pair a day
1860 - C. Robinson -	365 pairs a day

Machines revolutionize the industry

Later Period

Industrial Economy

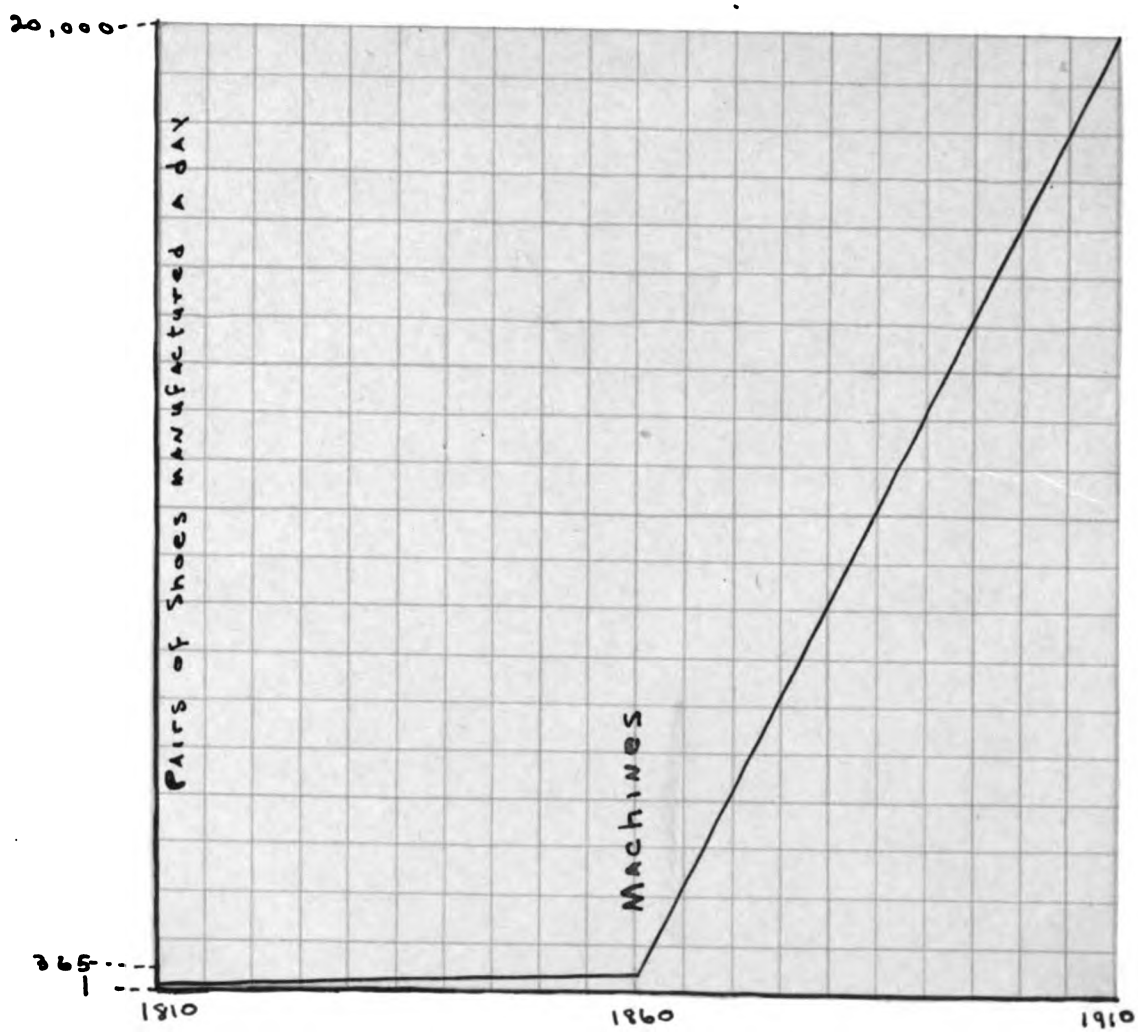
machines

factory

1910 - G. Keith -	20,000 pairs a day

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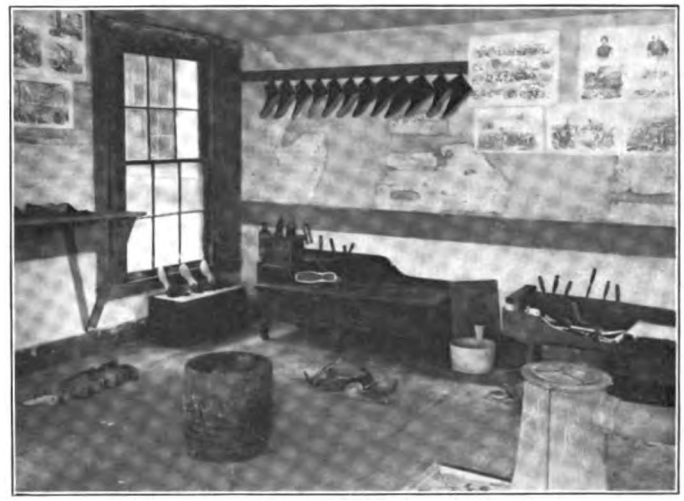
To show how the Introduction of Machines affected the Production of Boots and Shoes.

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In the days of the Awl, Lap-Stone and Hammer



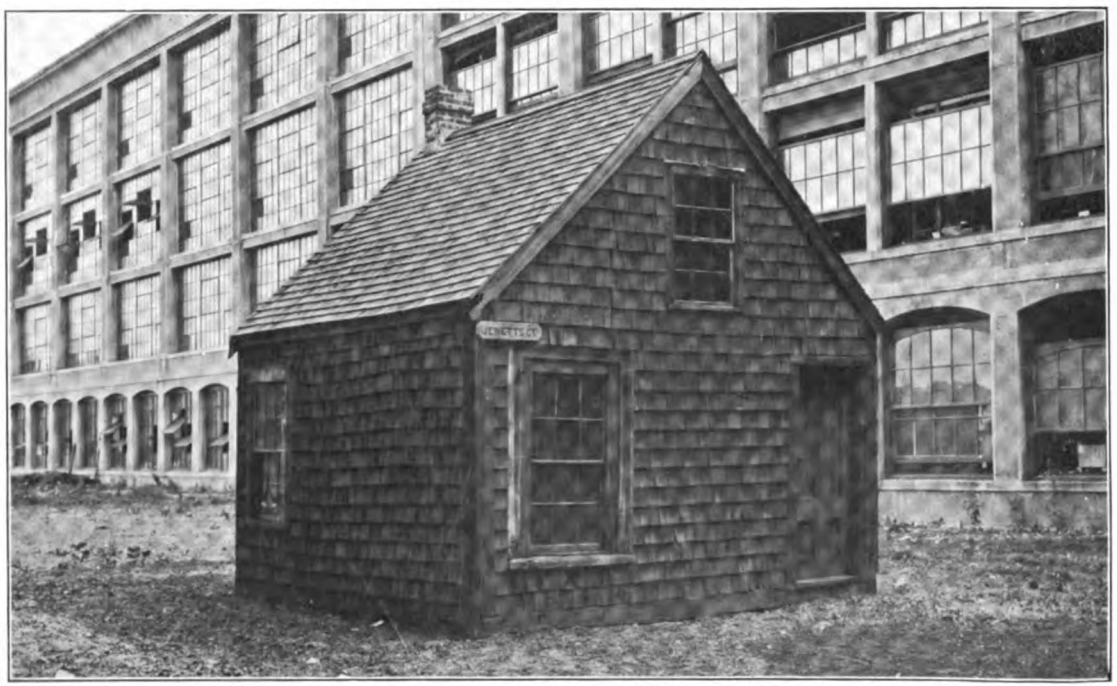
Interior of a Shoe Shop in the Civil War Period



A Modern Interior

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An Old Time Shoe Shop Placed Beside a Modern Factory

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THE MAKING OF A GOODYEAR WELT SHOE

The Factory

The twentieth century shoe factory is as different from the "10 footer" as the twentieth century method of manufacturing shoes is different from the "lapstone, awl, and hammer method" used in the "10 footer" shop. One of the most salient defects of the early 19th century workshop is transformed in the 20th century factory into one of its most salient virtues; the single window is paralleled to-day by "walls of windows". One of the most important considerations at present in building a factory is the securing of sufficient light for the intricate operations involved in shoemaking. Shoe factories, therefore, are commonly built in single, long, rectangular buildings, usually fifty feet wide, varying in length from two hundred to eight hundred feet. If wings are attached they are usually fifty feet wide. The most modern structures are made of steel and concrete, the outer walls largely given up to window space.

The typical shoe factory has four floors and six departments. The six factory departments are:

1. Upper leather department
2. Stitching department
3. Sole leather department
4. Making, or Bottoming department, with the subdivisions of
 a. Assembling
 b. Lasting
 c. Welting
5. Finishing department
6. Treeing, Packing, and Shipping department

Additional departments in large factories are:

1. Heel department
2. Box toe department
3. Box factory
4. Printing department

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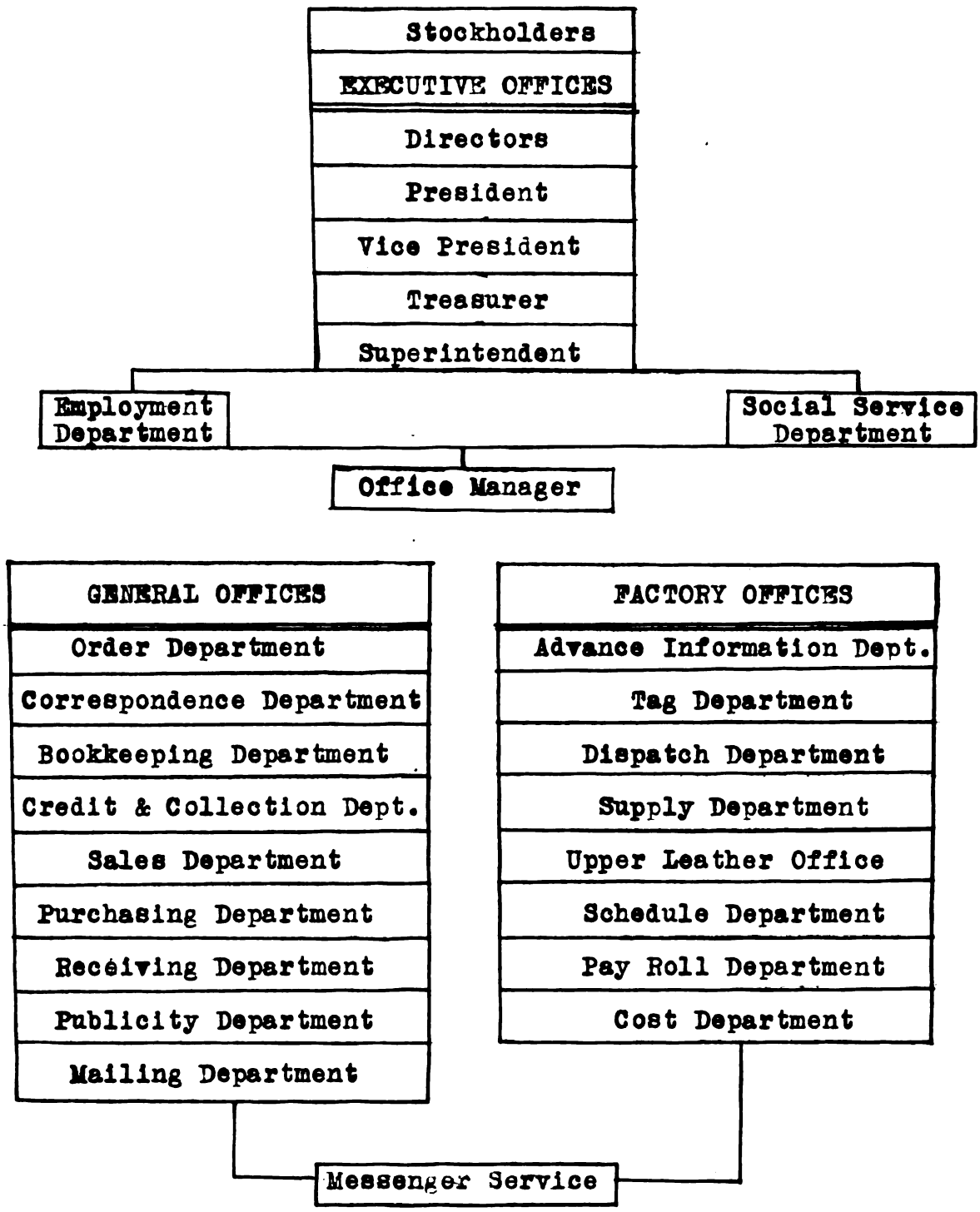
Usually the shoe travels from the top floor to the bottom in its process of construction. The first floor is occupied by the sole leather department. Here the hides are stored and cut into soles. The fourth floor is devoted to the cutting of the "uppers" and to stitching the quarters, vamps, and tips together. The third floor is devoted to the Making Department. Here the completed upper is attached to the sole. On the second floor the shoe is finished, which includes the treeing, burnishing, etc., packed and shipped. These floors are subdivided into sections, or rooms as they are called. The last division - treeing, packing, and shipping - are each separate departments in a large factory, making eight major divisions rather than six.

The business side of modern shoemaking has definite and numerous divisions. From 15 to 20% of the people connected with the shoe industry are employed upon its business side. The chart on page 59 gives a list of the usual business departments and shows their three fold nature, - the executive control, the maintenance of business, and the maintenance of manufacture. The divisions of employment and social service may be regarded as supplementary to the major divisions or independent of them. The executive officers who control and work out the policies of the company may or may not be stockholders. They are responsible to the stockholders for the success of the company. The general offices take charge of the orders received from the shoe dealers, take care of the correspondence, of the bookkeeping, and of the credits and collections of the company. They have charge of the purchasing and and caring for materials used in the manufacture of the shoes, and of the large and important functions of advertising and of selling the manufactured goods. The factory offices are those more closely

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The Business Departments of Shoe Manufacture.



Allen - The Shoe Industry - p. 111

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concerned with the process of manufacturing, and are therefore placed as near the factory departments as possible. They take charge of the tags which are made up according to the orders received by the order department and follow them through the factory. They provide a schedule of the time in which shoes shall be made or passed from room to room. They maintain supplies for all factory purposes, pay the employees, and supervise the costs of manufacture.

When an order is received in any modern and well organized factory, the factory management takes the precaution to see that all the details regarding the samples to which the finished product shall conform are set down in the order book. Each lot is given an order number and this number, together with the details affecting the preparation of the shoe upper, are written on tags - one for each case of shoes - which are sent to the foreman of the cutting room. Other tags containing details regarding the sole leather are sent to the sole leather room, while a third lot is made out for the guidance of the foreman of the Making or Bottoming room.

The Process of Making the Shoe.

The leather used for shoe manufacture is divided into two general classes, upper leather and sole leather. Upper leather includes the lighter leather made from kid and goat skins, calfskin, sheepskin, coltskin, and horsehide; sole leather includes leather made from the hides of large and mature animals, cowhide particularly. Because of the greater demand for thin leathers thick hides, such as cow and horse hides, are often split into thin layers by machinery and used for uppers.

There are four methods of making shoes to-day, the method

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being determined by the manner of attaching the sole to the upper. This has always been the most difficult problem of the shoemaker. The four methods are:

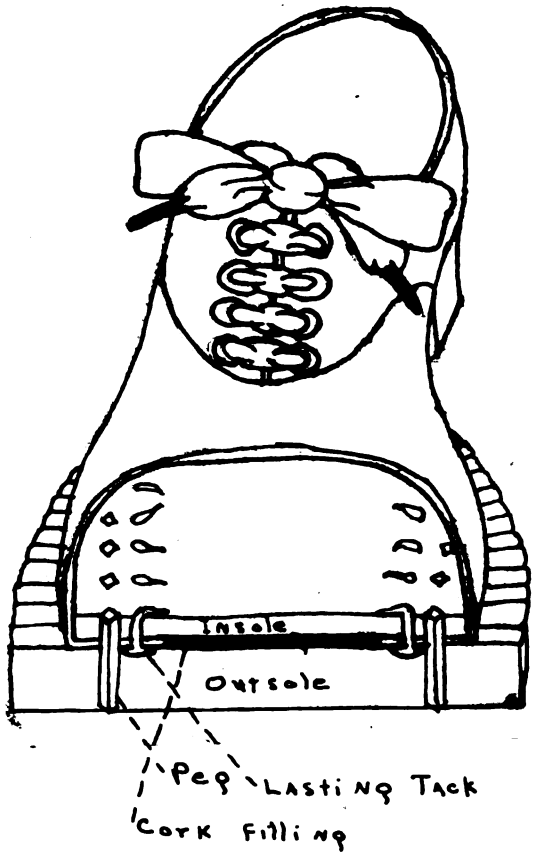
1. The pegged, nailed or Standard screwed,
2. The McKay sewed,
3. The turned, and
4. The Goodyear welt.

Pegs and nails were used to attach the sole to the upper in the earliest and most elemental method. As indicated a shoe made in this manner was known as the pegged, nailed, or Standard screwed shoe. This was improved upon by Gordon McKay, who devised the method of sewing the sole to the upper. The turned method, used in making fine shoes and slippers for women and children, means simply that the shoe is made inside out, the sole and upper are sewed together and then turned. The Goodyear welt method is the highest type method known to the science of shoemaking to-day. By this method sole and upper are also sewed together, but not directly, for the Goodyear welt method has an improvement on the McKay method in that a narrow strip of leather, known as the welt, is first sewed to the upper and then it is sewed to the sole. In the following pages the Goodyear welt method will be described, for it expresses the acme of what the 20th century has attained in the science of shoemaking. As such it is almost purely a machine made shoe.

The making of a shoe begins simultaneously on the top and bottom floors of the factory, in the cutting department on the top floor and in the sole leather department on the bottom floor. In the cutting room the leather for the uppers is cut, but before that occurs it is measured. The machine which does this is one of the latest machines invented and is expressive of the height of American ingenuity. A man would have to be a skilled mathe-

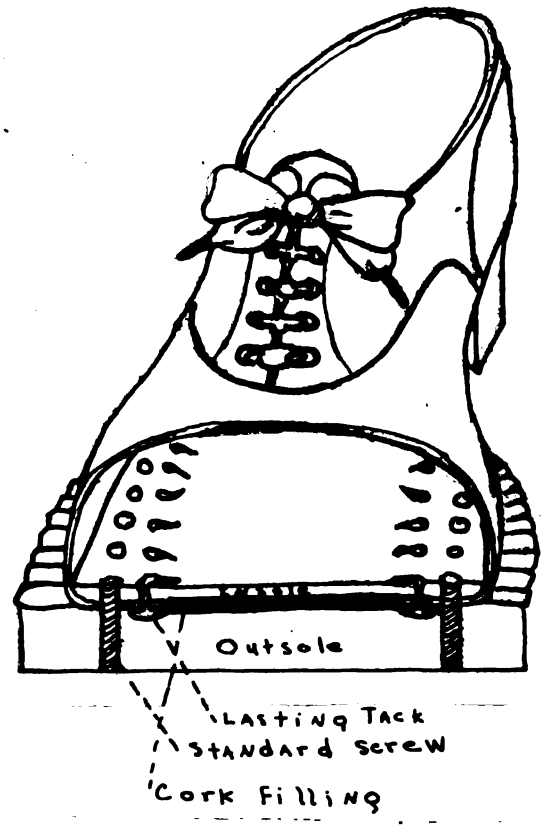
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The
Pegged
Shoe *

The
Standard Screwed
Shoe **

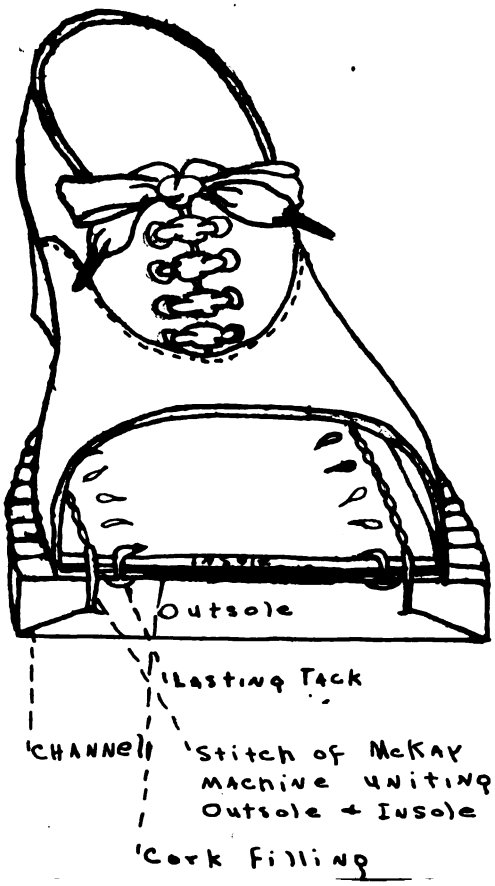


* Allen - The Shoe Industry - p.128
** Ibid - p. 127

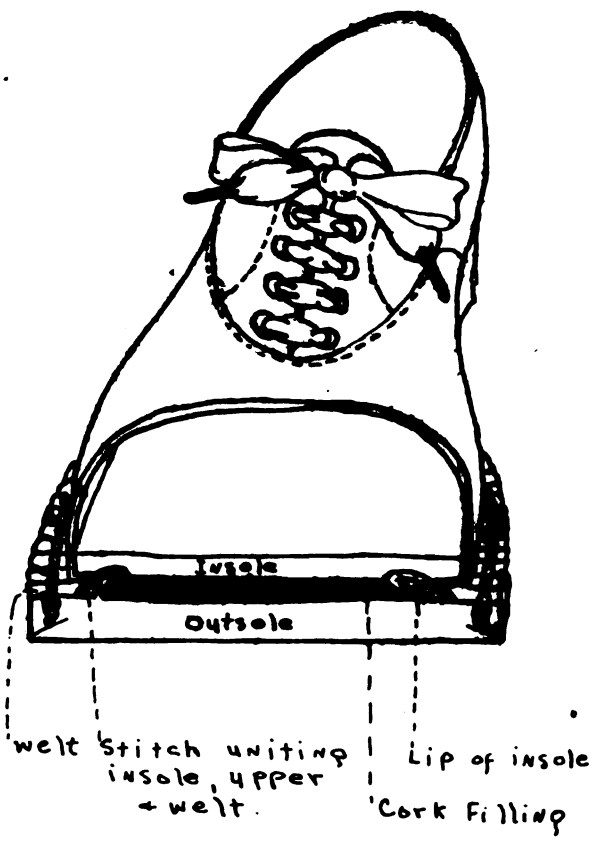
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The McKay Sewed Shoe *



The Goodyear Welt Shoe **



* Allen - The Shoe Industry - p.126
** Ibid - p. 125

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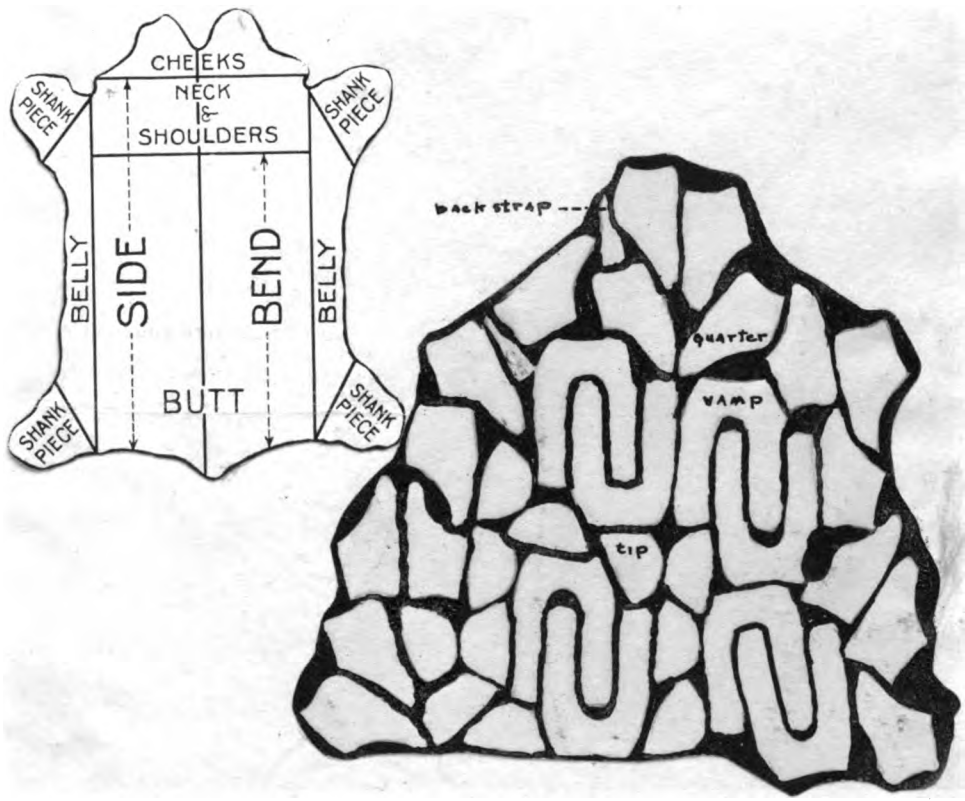
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matician to measure the number of square feet in a piece of leather having irregular edges. Nevertheless a machine has been invented that performs the operations which only a highly trained man can perform.

The leather comes to the cutting room in bundles, accompanied by a tag telling how many square feet in each skin, what kind of shoe is to be cut, the patterns that are to be used on the job, and the number of square feet of leather to be used. This work of cutting is not a simple thing, for among other things leather must not be wasted. A skin is not of uniform quality, the side is of better quality than the butt, belly, flank, shoulder or head. (See chart on page 65 showing parts of the skin). The vamps and tips which must be able to stand the greater wear are cut out of the side. The various parts which go to make up the upper of the shoe, the vamps, tips, foxing tongue, backstrap, must be made of a uniform quality of leather, for all parts of the same pair of shoes ought to wear uniformly. - Prior to the invention of the Ideal Clicking Machine the cutter did this work by hand. Patterns with metal edges, called "dies" were placed upon the leather and a small sharp knife was run around the edge of the pattern, cutting the leather to conform to the pattern. This is not only a slow process, but there is the danger of cutting away form the pattern, thereby wasting material. The linings and trimmings are also cut in the cutting room. The Ideal Clicking Machine has cutting board very similar to those which were used by the hand workman, and over it is a beam which can be swung either to the right or to the left, and over any portion of the board. Any kind of skin may be placed on the board and the operator placed a die upon it. Grasping the handle which is part of the swinging beam, he moves the beam over the die, and

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To show how the "dies", the patterns for the parts of the upper of a shoe, are placed on leather. Note that the parts receiving the most wear, the vamps and tips, are placed where the leather is of the best quality. Those receiving less wear, the quarters and back straps, are placed to the outside where the leather is of poorer quality. Note the economy exercised in the utilization of the leather.

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upon pressure of the handle a clutch is engaged which brings the beam down, pressing the die through the leather. As soon as this is accomplished the beam automatically returns to its full height and remains there until the handle is pressed a second time.

After the operator of the Clicking Machine has cut the parts according to directions on the tag, those edges which will show in the finished shoe are skived or thinned down to a beveled edge. This work is done by the Amazeen Skiving Machine. The edge to be skived is fed to a sharp revolving disk that cuts it down to the desired bevel. The machine conforms to all the curves and angles. Skiving is done so that the edges may be folded to give them a finished appearance. After the edges are skived cement is applied and they are fed to a machine which turns back the edge and pounds it down.

Aside from the work of skiving tips and folding them, ornamental perforations are often cut along their edges. This is done very often by the Crown Tip Punching Machine, by means of which the piece to be perforated is placed under a series of dies which cut the perforations into the leather according to a predetermined design. Some manufacturers prefer to have this work done with the Royal Perforating Machine. This closely resembles a sewing machine; the perforations are made in single dies or combination dies. One or more holes are made on each downward movement of the little perforating tool locked in the head of the machine. This machine is also used to ornament the edges of vamps and foxings, and the winged tips seen of many shoes.

On one of the top linings of each shoe there has been stamped the order number, as well as the size of the shoe for which the linings were intended. After the linings have been prepared in accordance with the instructions of the tag, they, in connection

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with the other parts of the shoe, the outer quarters, the vamps, the tips, the counters, and the bosings, go to the stitchers, who sew the parts together. The machine used for this purpose is the Singer Sewing Machine. These machines are leased to the shoe firms.

The work of fitting consists of numerous individual operations. The quarters and vamps must be reinforced by pasting cloth on the back of them, the tongue must have a lining, the tip must be sewed to the vamp, the box toe must be inserted, the vamps must be sewed together at the back, they must be stayed, they must be back strapped, the button fly or eyelet stays, as the case may be, must be sewed on, they must be top faced, and most important of all, the shoes must be vamped, i. e., the completed vamps must be sewed to the completed quarters, - all of these are skilled operations. The stitchers rank second only to the cutters.

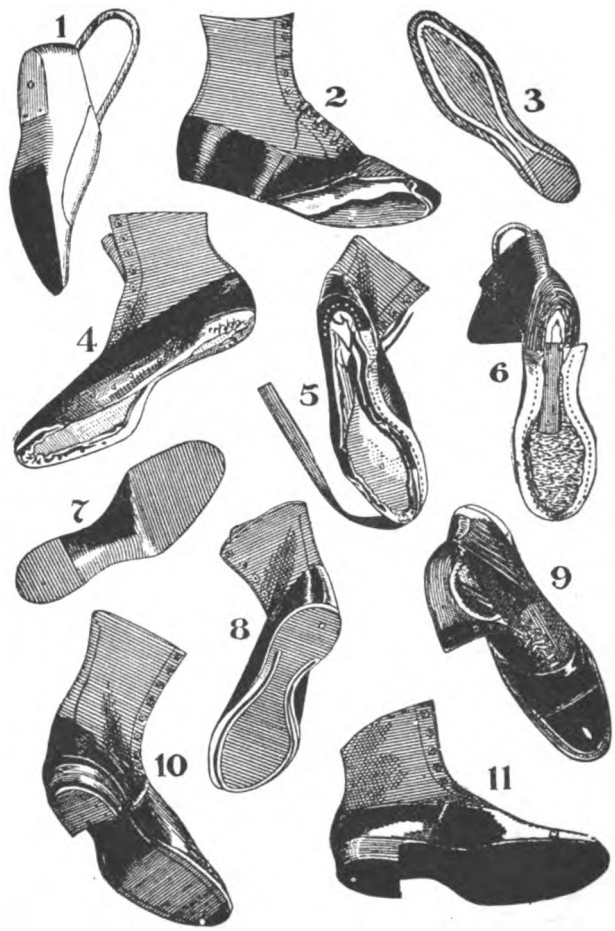
After the upper is fitted it is ready to receive the eyelets. These are placed with remarkable speed and accuracy by the Duplex Eyeletting Machine. This machine eyelets both sides of the shoe at one time with bewildering rapidity. The eyelets are placed securely directly opposite each other and are spaced accurately.

At this point the shoe upper undergoes inspection by a factory hand. If it is not up to standard it is put aside for the foreman's inspection. When the inspector's work is completed the upper is finished. The various lots with their tags are sent to the bottoming room to await the coming of the sole leather portions of the shoe. These have been undergoing preparation in the sole leather room, where on receipt of a tag the foreman gives directions for the preparation outsoles, insoles, counters, box toes, and heels, to conform with the requirements of the order.

In the cutting of the sole leather, which is done on the first floor, the problems which confront the cutter are to avoid all

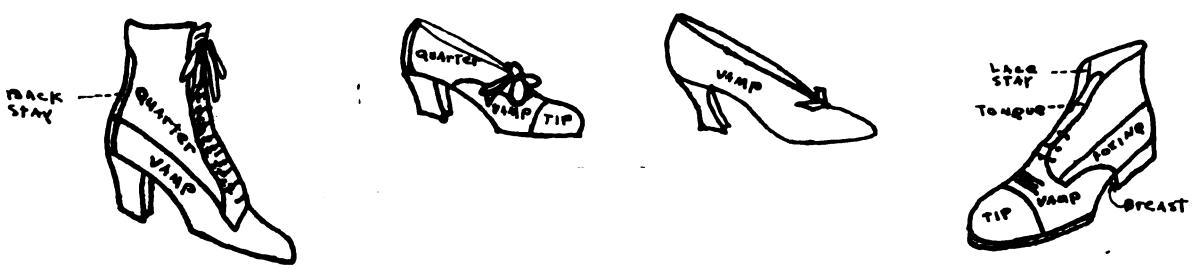
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1. A last.
2. An upper.
3. An insole.
4. Shoe lasted and ready to have welt sewed on.
5. Welt partialiy sewed on.
6. Welt entirely sewed on and shoe ready to have outsole laid.
7. An outsole.
8. Shoe with outsole laid and rounded. Channel lip turned up ready to be stitched.
9. Shoe with sole stitched on.
10. Shoe with heel in place.
11. Heel trimmed and shoe ready for finishing.

To show steps in process of making



Names of different parts of a shoe

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possible waste, to avoid scratches and such defects as would be detrimental to the finished appearance of the shoe, to be careful that the best wearing leather is cut into the forepart of each pair of soles, and to be careful that the two soles are of uniform quality. In cutting the inner sole, style and finished appearance may be disregarded, but care must be taken that it is of the proper thickness and quality to make a foundation for the shoe. Counters must be light and firm, flexible enough for the comfort of the wearer, and firm enough to keep the back part of the shoe in shape during the full period of its usefulness. Heels may be made from the remnants of leather too small or not good enough for soles and counters. The bottom lift of the heel, however, must be cut from the best leather obtainable. After the soles are cut they must be sorted. The sorter must be a good judge of sole leather, and must be able to tell at a glance from which part of the hide the sole has been cut in order to classify each pair of soles into its proper grade and wearing quality, thereby producing shoes whose two soles are of the same quality.

The soles are roughly died out from sides of leather on large Dieing-out Machines which press the heavy dies down through the leather. To make them conform exactly to the required shape they are generally rounded out on the Planet Rounding Machine, in which the roughly died out piece of leather is held between clamps, one of which is the exact pattern of the sole. On starting the machine a small knife darts around this pattern, cutting the sole exactly to conform with it.

The outsole is now passed to a heavy Rolling Machine where it is subjected to tons of pressure between heavy rolls. This takes the place of the hammering which the old time shoemaker gave the

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leather, and brings the fibres very close together, greatly increasing the wear. The sole is next fed to the Summit Splitting Machine - Model M, which reduces it to an absolutely even thickness.

The insole, which is made of very much lighter leather, is prepared in much the same manner, and receives further treatment. It is channeled on the Goodyear Universal Channeling Machine, which cuts a little slit along the edge of the insole, extending about one half inch towards its center. It also cuts a small channel along the surface. This lip which has been formed by the Goodyear Channeling Machine is now turned up on the Goodyear Lip Turning Machine, so that it extends out at a right angle from the insole forming a shoulder against which the welt is sewed. The cut which has been made on the surface inside this lip serves as a guide for the operator of the Goodyear Welt Sewing Machine, which is a very important machine used later in the process.

The heels have been formed from lifts of leather cemented together. This pack of lifts is placed under great pressure, which gives it exact form and greatly increases the wear. The counters are also prepared in this room as well as the toe boxes which are later placed between the toe cap and vamp.

When the uppers, outsoles, insoles, and accessories are completed they are ready for the fourth and big department, the Making of Bottoming Department. Now the various parts, or "pieces" of the shoe, the upper, the sole, the heel, and the counter, are put together and the result begins to look like a shoe. In this department the observer could not mistake the fact that he is in a shoe factory. - The first operation is to lace the two sides of the upper together so that the parts of the shoe may be held in a symmetrical position while the shoe is being made. This is done by an ingenious little machine, called the Ensign Lacing Machine.

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which passes strong twine through the eyelets and in a twinkling ties it automatically into a perfect knot.

The uppers, soles, and lasts are now brought together, "assembled", in the Lasting or Assembling Room. The insole, which conforms exactly to the shape of the bottom of the last is tacked to it by the Insole Tacking Machine. The Assembler has soaked the counters in water and has pasted them into the heel of the upper. The toe box and counter are placed in position and the upper is drawn over the last. The workman now places this on the spindle of the Rex Assembling Machine, being careful that the seam at the heel is properly located. He presses a foot lever and two small tacks are driven part way in, which hold the upper, counter, and toe box in place temporarily.

The shoe, if it may be called that, is now ready for a very important operation. It is fed to the Rex Pulling-over Machine- one of the most wonderful machines used in the process. As the parts of the shoe upper have been cut to exactly conform to the shape of the last, it is necessity that they should be correctly placed on the last to secure the desired results. The pincers of this machine grasp the leather at different points on each side of the toe, and the operator, standing in a position from which he can see when the upper has been placed exactly in the center, presses a foot lever, the pincers close and draw the leather securely against the last. The machine halts. By moving other levers the workman is able to adjust the shoe upper accurately so that each part of it lies in the exact position it was intended when the shoe was designed. By again pressing a foot lever the pincers move toward each other and draw the leather securely around the last. At the same time there are driven automatically part way in three tacks on each side and one at the toe to hold the upper securely in position.

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The shoe is now ready for the process known as Lasting. This is one of the most difficult and important parts of shoemaking, for upon the success of this operation depends in a great measure the beauty and comfort of the shoe. The Consolidated Hand Method Welt Lasting Machine, which is used for this purpose, takes its name from the almost human way in which it performs this part of the work. It draws the leather around the last evenly and tightly, permitting no wrinkles. At each pull of the pincers a small tack driven automatically part way in holds the edge of the upper exactly in place, so that in the finished shoe every part of the upper has been stretched in all directions equally. The toe and heel are especially difficult to last properly. A special machine, the United Shoe Machinery Company Lasting Machine No. 5, known as the "bed type" or as the Bed Machine, has been devised for this particular part of the lasting process. It is provided with a series of wipers which draw the leather over at the toe and heel. After the leather has been brought smoothly around the toe it is held there by a fine wire fastened on each side of the toe which holds securely the leather which has been crimpled in. The surplus leather crimpled in at the heel is forced smoothly down against the insole and is held by tacks.

In the lasting operation a surplus amount of leather is left at the toe and a smaller amount around the sides. The leather at the toe is removed by the Rex Upper Trimming Machine by means of which a small knife cuts away the surplus leather, and simultaneously a small hammer operating in connection with the knife pounds the leather smooth along the sides and toe of the shoe. The counter and leather around the heel must also be pounded so that the stiff portion of the shoe will conform to the shape of the last. This is done by the Rex Pounding Machine. The Tack Pulling and Resetting Machine is used at this point to pull the lasting tacks, simultaneously setting other tacks

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to hold the shoe upper in correct position.

Before the shoe goes to the Goodyear room it comes into the hands of the Crowner. The Crowner is briefly the inspector.

In the Goodyear room the shoe goes through the process of Goodyear welting, that unique process which makes the shoe what it is. The welt is simply a narrow strip of leather, which is insered between the upper and the sole. Its purpose is to avoid a seam on the inside of the shoe. The welt is placed on the insole, being sewed from the inside lip of the insole in such manner that the needle passes through the lip, upper, and welt, uniting all three securely and allowing the welt to protrude. The needle in making this stitch does not go inside the shoe but passes through only a portion of the insole, eliminating inseam sewing stitches. This was formerly one of the most difficult and laborious tasks in shoemaking. As it was performed entirely by hand, the drawing of each stitch depended entirely upon the strength and mood of the workman. "It is, of course, obvious that with different operators stitches were oftentimes of different lengths and drawn at differant tensions; for human nature is much the same everywhere, and it is therefore impossible for a workman who has labored hard all day to draw a stitch with the same tension at night as was possible in the morning".* By the welt method seams on the inside of the shoe are obviated, for the outsole is sewed directly to the welt. "The Goodyear Welt Sewing Machine is the machine which accomplishes this; it has been the leading factor in the great revolution which has taken place in the manufacture of shoes. Its work should be carefully noted- all stitches are of equal length and measured automatically, the strong linen thread thoroughly waxed and drawn evenly and tightly; for the

* Goodyear Welt Shoes- U. S. M. Co. p.26

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machine never tires and draws its thread as strongly in the evening as in the morning. Every completed movement of the needle forms a stitch of great strength, which holds the welt, upper and insole securely together". * see back

The surplus portions of the lip, upper, and welt which protrude beyond the stitches are trimmed off by the Goodyear Inseam Trimming Machine. This has a revolving cup-shaped knife which trims off the surplus leather very smoothly down to the stitches. The tacks which hold the insole in its proper position on the last are now pulled out by the Insole Tack Pulling Machine.

It is necessary that the welt stand out evenly and rigidly from the side of the shoe, and especially at the curve of the toe where there is a natural tendency for it to draw. This is accomplished by the Goodyear Welt Beating and Slashing Machine in which a little hammer vibrating very rapidly beats the welt, and a little knife makes a series of cuts diagonally along the edge of the welt so as to relieve the tension on the outer edge of it. Before attaching the outsole, the shank, which is the arch, usually made of steel or wood, must be cemented into position. The bottom of the shoe is not level. A space, the thickness of the welt occurs. If this were not filled there would be an air space between the insole and outsole. This is overcome by simply filling in the space with a mixture of earth, cork and tar.

The shoe is now nearing completion in so far as its construction, the putting together of the parts of which it is composed, is concerned. It still lacks the outsole and heel. To attach the outsole the first step is to coat the

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* Goodyear Welt Shoes - United Shoe Machinery Company - p.27

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the insole and the attached welt with cement. After the cement has dried slightly the almost completed shoe and outsole comes into the hands of the operator of the Goodyear Improved Laying Machine. A rubber pad or mould, shaped to conform to the curve in the sole, is placed in the machine just below a spindle which is suspended from above. The shoe which has had the outsole pressed upon it is placed on the spindle. The operator presses the foot lever which causes the arm to descend and the shoe is forced down into the mould. Here it is allowed to remain long enough for the cement to properly set. The operation is repeated on a duplicate part of the machine so one shoe is under pressure while another is being prepared.

The next operation is that of trimming the sole and welt so that they will protrude a uniform distance from the edge of the shoe. This is done by the Goodyear Universal Rounding and Channeling Machine. It gauges the distance exactly from the edge of the last. The operator is able to change the width of the edge at will so that it may be greater on the outside of the shoe than on the inside, or so that it may be considerably reduced in the shank. Simultaneously with the rounding operation the machine cuts a channel, or slit, along the edge of the sole in much the same manner as the work was done on the insole.

The only part which now remains to be attached is the heel. It is nailed to the shoe by the Loose Nailing Machine. This Machine is able to drive 350 small brass nails per minute automatically and space them. The nails are driven through insole, outsole, and are clinched inside the heel.

The Goodyear Universal Rounding Machine does not round off the portion of the outsole at the heel. After the heel has been

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placed, this is accomplished by a rounding machine especially for this purpose, the Goodyear Heel-seat Rounding Machine. Another minor operation is that of turning up the lip of the channel which was cut by the Rough Rounding Machine. This is done by the Goodyear Channel Opening Machine in which a little wheel, turning very rapidly, lays the lip smoothly back.

The shoe now goes through another very important process, that of stitching the outsole to the welt. The Goodyear Outsole Rapid Locksmith Machine sews the outsole to the welt in much the same manner as the Goodyear Welt Sewing Machine sewed the welt to the upper. The stitch, however, is finer and extends from the channel in the outsole, which was cut for it, to the upper side of the welt, where it shows when the shoe is finished. Waxed thread is used, and the lockstitch formed is a most durable one. The curved needle used in this machine makes it possible to sew even in the narrow edge of the shank. In connection with this machine there is also a bobbin winder, which winds the bobbin used in the rotating shuttle of the machine.

The lip of the channel is now folded down against the sole. This minor process requires two machines for its execution. The inside of the channel is first coated with cement by the Star Channel Cementing Machine which is provided with a special brush used for the purpose. After the cement has been allowed to set a sufficient length of time, the lip is forced into its original position by the second machine, the Goodyear Channel Laying Machine in which a rapidly revolving wheel provided with a peculiar arrangement of flanges forces the lip back into place, securely hiding the stitches from

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The sole now passes through the process of leveling, one of the most interesting in the shoemaking process. This is for the purpose of removing every possibility of any unevenness remaining on the bottom of the shoe. The Goodyear Automatic Sole Leveling Machine is provided with two jacks, on one of which the operator places a shoe to be leveled. It is held securely by the spindle and a toe rest, and on pressure of a foot lever, the shoe passes automatically beneath a vibrating roll under heavy pressure with a vibrating motion. This roll moves forward over the sole of the shoe down into the shank, passes back ag in into the toe, then cants to the right, and repeats the operation on that side of the shoe, returning to the toe and canting ag in to the left, repeating the operation on that side; after which the shoe automatically drops forward and is relieved from pressure.

The shoe appears now to be almost finished. Only the heel remains to be attached but several machines are necessary to attach the heel and finish the shoe.

The American Lightning Nailing Machine nails the heel to the shoe in the manner intimated. The shoe is placed on a jack, the sole uppermost. The heel nails which have been stuck into the holes of a steel plate which has the form of the heel, are swung into position exactly over the heel and dropped automatically into still another plate. They are now exactly over the points at which they are to be driven. On pressure of a foot lever the lightning work is accomplished - the nails are driven by the machine with one motion through the heel, upper and in-

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sole, and clinched back into the leather. The heads of the nails are left slightly protruding above the heel to receive the toplift which is now placed in position. This toplift has been previously prepared from the best grades of leather and been subjected to immense pressure to weld the fibres of the leather very securely together and to give it shape. By the process known as "blind nailing" the toplift is attached to the heel. Some cement has been applied to its surface, it is placed in position, and by the pressure of a lever it is pressed down over the heads of the nails.

The next machine drives the small pieces of brass or other metal, called "slugs" which increase the wearing quality of the heel. This is done by the Universal Slugging Machine. The slugs are accurately placed to any desired number, the machine automatically driving and cutting them off as they are drawn from a continuous coil of wire which is shown above the machine.

The Ultima Heel-Trimming Machine does what its name indicates. Two very rapdily revolving knives, which revolve at the rate of 1100 revolutions per minute, cut away all the rough and surplus portions of the leather, leaving the edge of the heel smooth and with the exact contour intended. A blower removes all scrap and dust.

The breast of the heel, or that portion which extends over the sole at the shank, is now trimmed evenly across and with the desired slant by the Imperial Heel-Breasting Machine, Model B. This machine is provided with adjustments which make it possible to force a curved knife through the various lifts

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of leather with one clean thrust, the curve of the knife exactly conforming to the bevel of the sole.

The heel is now polished or scoured. Two machines do this. The Breast Scouring Machine has two belts which run over a form the same shape as the breasting knife. The operator holds the shoe up against the form and the belt. The belt, made of emery cloth, scours the breast perfectly smooth. The Heel Scouring Machine is provided with two wheels which are covered with felt pads. These in turn are covered with emery paper, the one wheel having a coarse paper, the other a fine paper. As these revolve the operator holds the heel against them, being careful not to permit the upper to come in contact with the wheel. The rough scouring is done first, followed by the fine scouring.

The edge, or forepart of the shoe, including the outsole and the welt, which was left slightly rough from the chopping motion of the knife on the Universal Rounder, is now made even and smooth and with just the desired bevel on the edge of the sole, by the Edge Trimming Machine. The operator of this machine must have a keen eye and steady nerve, for he must bring the edge of the sole in contact with a little wheel, in which there are a series of blades, to trim away the surplus leather smoothly and evenly. The last operation in the Bottoming Room is known as jointing. The Jointing Machine completes the work of the Edge Trimming Machine. It has three small knives which work together and leave the edge uniform with the heel seat.

The shoe now proceeds to the last department, the Finishing Department. It meets with the Hadaway Stitch Separating

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Machine, and it does what its name indicates; the stitches on the upper side of the welt are separated so that each shows more distinctly. A little tool in this machine makes a series of indentations between the stitches giving them an even and pleasing appearance. This form of ornamentation is in universal use, and its artistic application is considered one of the fine points in show making. In some instances it is preferred that the stitches made by the Goodyear stitcher should be drawn into the welt slightly below its surface. This is called a fudge stitch and when it is used an impression wheel makes a series of indentations on the surface of the welt very similar to those made by the Stitch Separator. The little indentations are later burnished on the Goodyear Impression Stitch Burnishing Machine. "As it is necessary that the edge of the shoe also should have a durable and burnished finish, it is taken to the operator of the Twin Edge Setting Machine, in which there are two hot irons vibrating very rapidly. By holding the edge of the shoe to these irons, they are made to move with great rapidity over the surface to which they are applied, with much the same motion with which the old-fashioned shoemaker applied his rubbing stick to the edge of the shoe, only the vibrations are exceedingly rapid."*

The surface of the toplift must also be scoured. This is done by the Top Piece Sanding Machine - Model G, in which the surface of the toplift is pressed against the sanded face of a large revolving disk.

* Goodyear Welt Shoes, U.S.M.Co. p. 39

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The heel now receives its finish. This consists in inking, waxing, and polishing it. After it has been treated with a special ink it is pressed against the wheel of the Xpedite Finishing Machine Model BB. This wheel is peculiarly constructed; it is made up of a number of segments which lie diagonally across its surface and conform to the varying shapes of heels. A little disk, which is heated, carries to the heel a peculiar hot wax. This disk applies the wax to the heel by a series of rubbing blows which beat it very thoroughly into the heel. It is then presented to a quite rapidly revolving brush, which also is a part of this machine, and which brings it to a perfectly smooth surface of unusual brilliancy.

This completes the heeling. The shoe, as a whole, now received a general "going over". The stains which may have made their appearance on the sole of the shoe in the various operations through which it has passed are removed on the Buffing Machine - Model G, in which two rapidly revolving rolls covered with sandpaper remove all blemishes. This particular buffing does not, however, remove all possible blemishes. The sole needs to be finished. This occurs on the Naumkeag Buffing Machine which is entirely different from the above. In this machine a little pad of rubber covered with very fine emery paper revolves about 7000 times per minute. The rapidity with which this revolves could burn anything with which it comes in contact, but this is prevented by distending the rubber pad with a constantly renewed supply of aid from an air pump which is a part of the machine. This

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combination gives the sole and shank a beautiful velvety appearance, and makes possible a most desirable bottom finish.

The bottom has not yet been stained with black. This is done now and brought to a high polish by the various brushes of the Climax Finishing Shaft. These Climax brushes are used for various purposes, [illegible], and through the various brushes and rolls on this shaft the fine finish of shoes is accomplished. A special machine, the Stitch and Upper Cleaning Machine, is used to clean and polish the stitches in the welt.

The last over which the shoe was drawn in the Making Department has been allowed to remain in place throughout the process of construction. Before it is withdrawn, and before the final machine operation with which the shoe meets, the "treeing" or Ironing, the manufacturer's trade mark is placed on the sole or shank of the shoe in order that the quality of his shoes may be recognized. This is done by the Regent Stamping Machine - a remarkable machine whereby the operator is enabled to press the heated die against the surface under any pressure from 10 to 10,000 lbs.

The Miller Shoe Treeing Machine performs the final operation. The shoe is drawn from the last and placed over a form on the machine which is the shape of the last but is not as large. On pressure of a foot lever the form is made to expand until it fills it. The various hot tools are used to iron it; it is ironed on all sides, up the front, from toe to top, up and down the sides and up and down the back. Every semblance of a wrinkle must disappear. The releasing of the foot lever

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causes the form within the shoe to contract and the shoe is removed. Those shoes which are to be creased across the vamp are placed over the horn of the Improved Creasing Machine which makes three creases across the vamp where it would naturally crease or break where the foot is bent.

After a final dressing and brushing by hand to remove every semblance of dust or dirt, and after final inspection, the shoes are sent to the packers in the Shipping Department who sort them for size and width, pack them in cartons and send them out to the trade. And the consumer is supplied with the Goodyear Welt shoe, a product of American ingenuity, which involved the efforts of 123 pairs of hands and 58 highly developed machines.

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The following cuts show the establishment of the United Shoe Machinery Company, which is located at Beverly, Massachusetts, and some of the machines made by the firm.

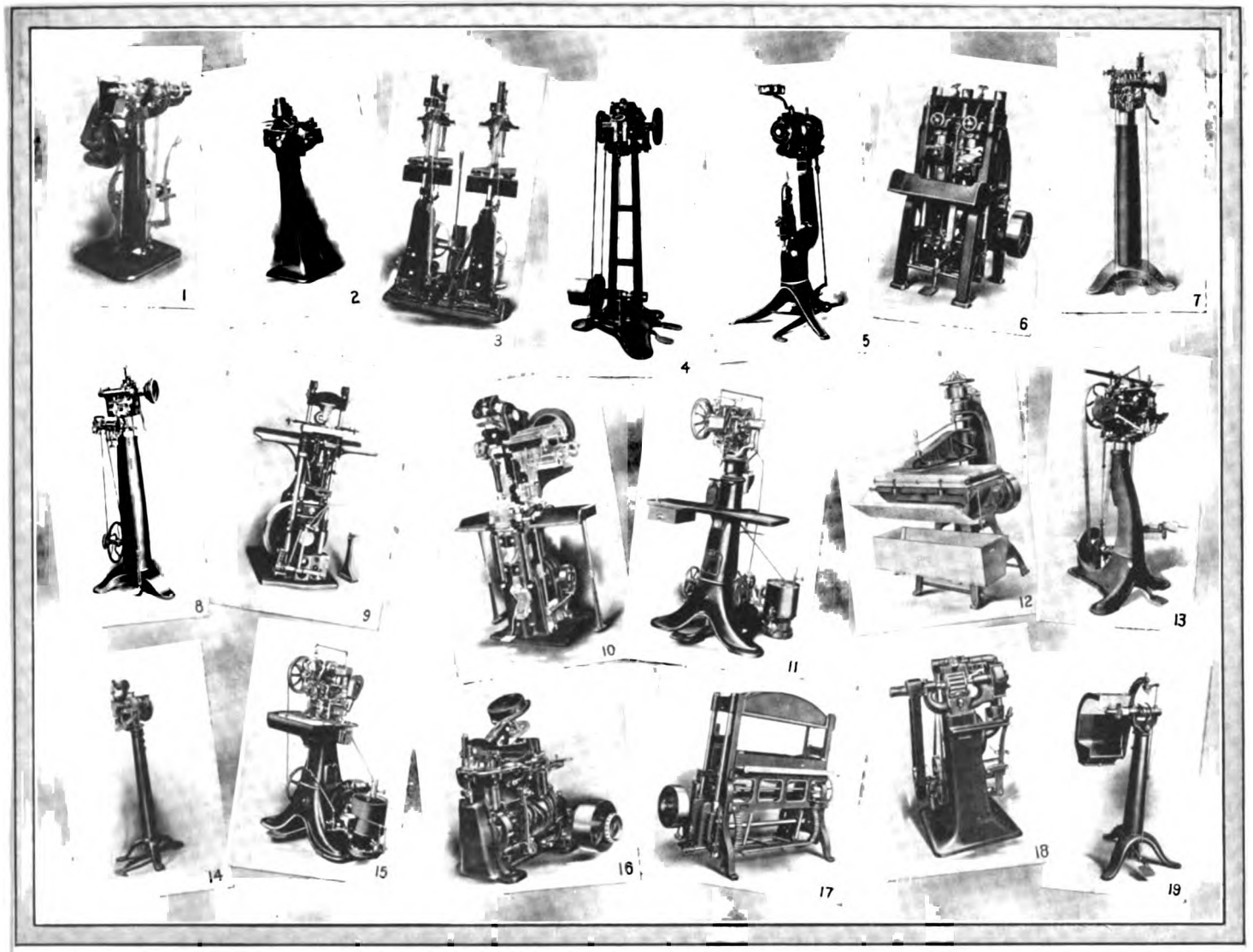
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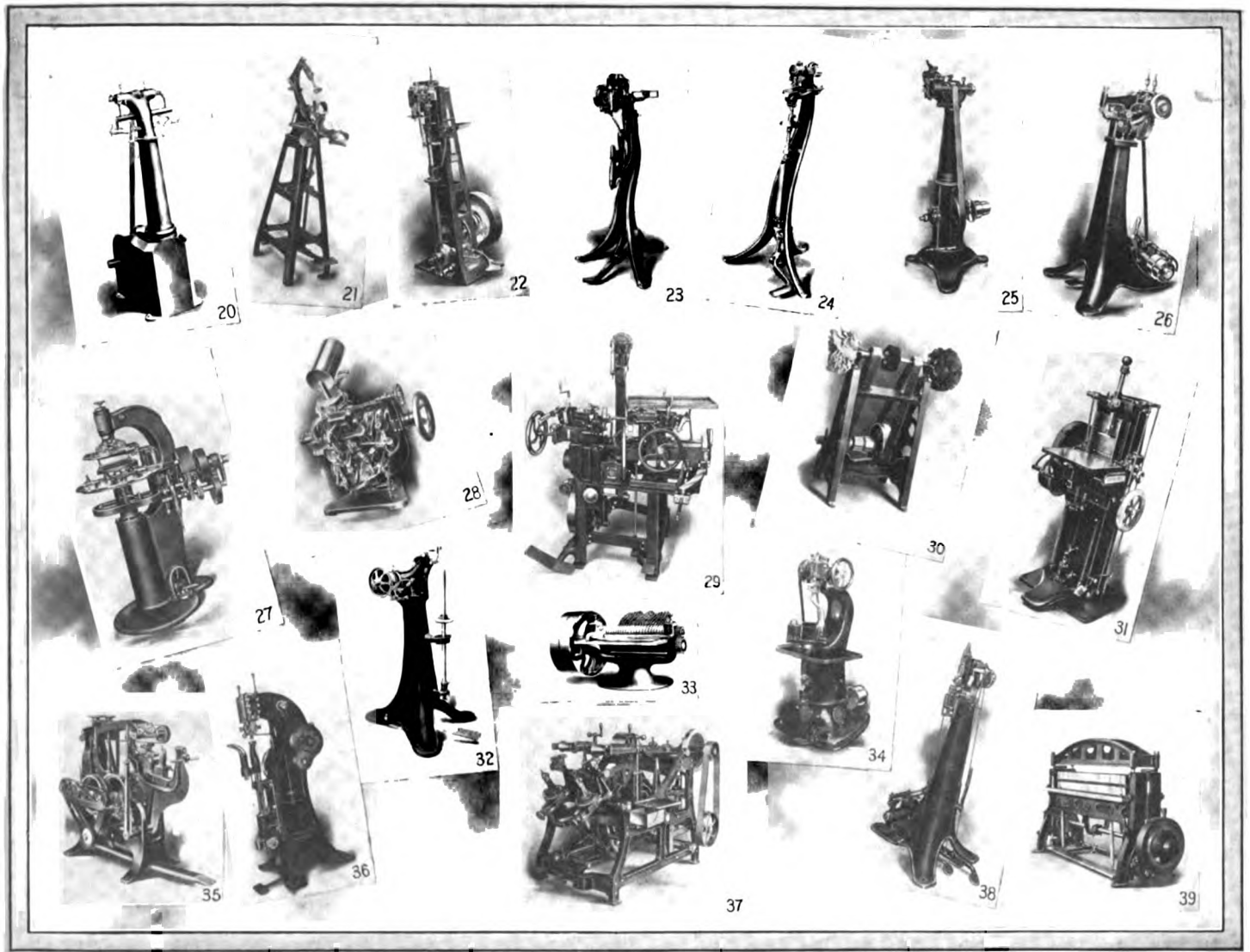
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1. Ultima Heel Trimming Machine
2. Crest Heel Blacking Machine — Model B
3. Goodyear Improved Sole Laying Machine — Twin
4. Hadaway Stitch Separating Machine
5. Universal Slugging Machine
6. American Twin Sole Moulding Machine — Model C
7. Goodyear Universal Rounding and Channeling Mch.
8. Goodyear Universal Inseam Trimming Machine
9. Atlas Leveling Machine — Model A
10. McKay Automatic Heel Loading and Attaching Mch.
11. Goodyear Welt and Turn Machine — Model G
12. Ideal Clicking Machine — Model C
13. Con. Hand Method Welt Lasting Machine
14. U. S. M. Co. Insole Tacking Machine No. 1
15. Goodyear Outsole Rapid Lockstitch Machine — Model K
16. Universal Power Eyeletting Machine
17. Improved Geared Sole Cutting Machine — Model CC
18. Rex Rotary Pounding and Trimming Machine — Model B
19. Goodyear Insole Tack Pulling Machine

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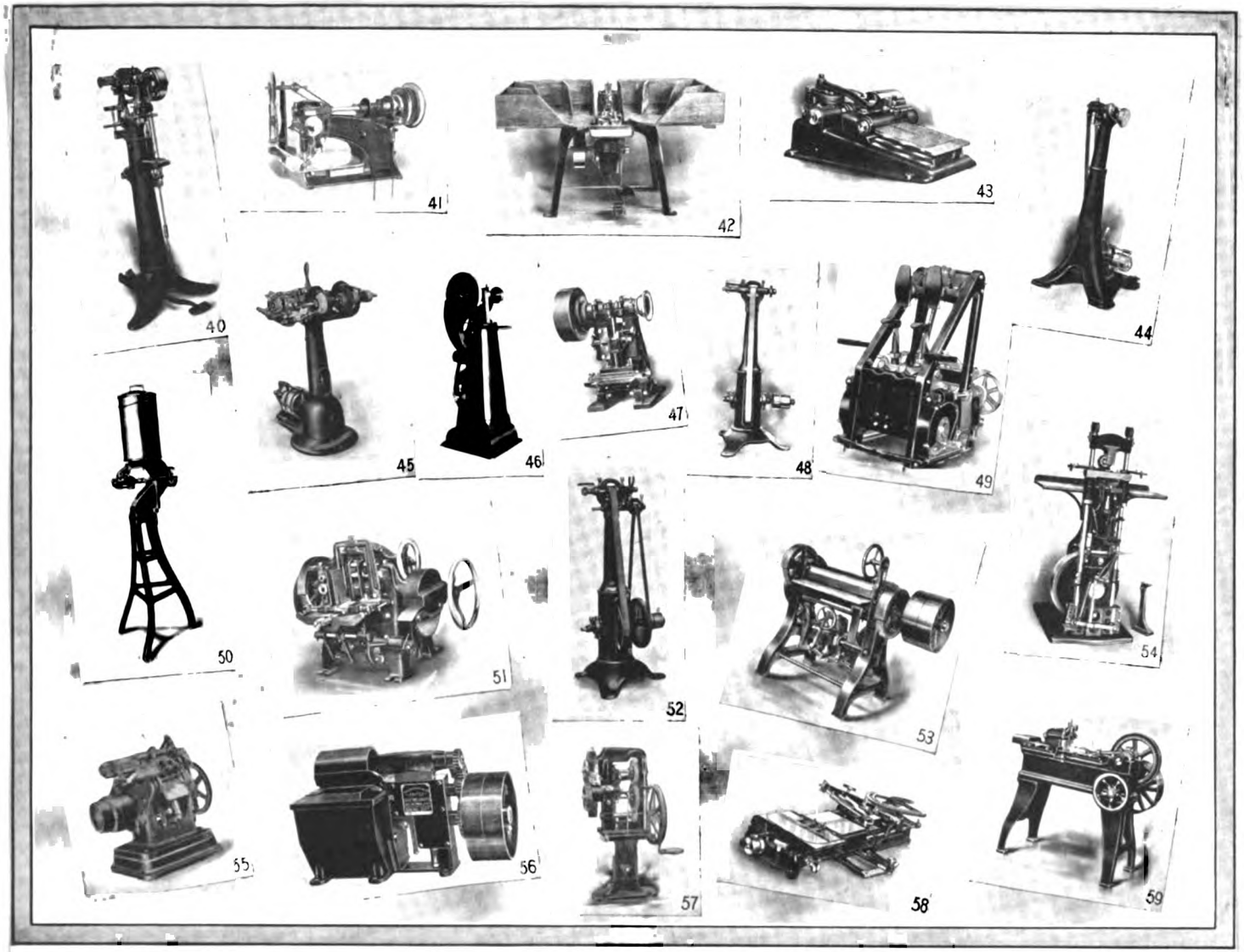
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20. Union Twin Edge Setting Machine — Model S
21. Goodyear Heel Turning Machine
22. Imperial Heel Breasting Machine — Model B
23. Universal Double Clinch Machine
24. Goodyear Welt Indenting and Burnishing Machine
25. Feather Edge and Shank Reducing Machine — Model H
26. Goodyear Universal Welt Beating Machine
27. Planet Rounding Machine — Model D
28. Duplex Eyeletting Machine
29. U. S. M. Co. Lasting Machine No. 5
30. Upper Cleaning Machine — Model R
31. Monarch Counter and Box Toe Skiving and Finishing Machine
32. Rex Hammer Pounding Machine
33. Welt Cutting Machine — Model N
34. McKay Sewing Machine — Model B
35. Goodyear Welt and Turn Shoe Leveling Machine
36. Regent Stamping Machine — Model C
37. Goodyear Automatic Sole Leveling Machine
38. Goodyear Universal Channeling Machine
39. Gearless Sole Cutting Machine — Model E

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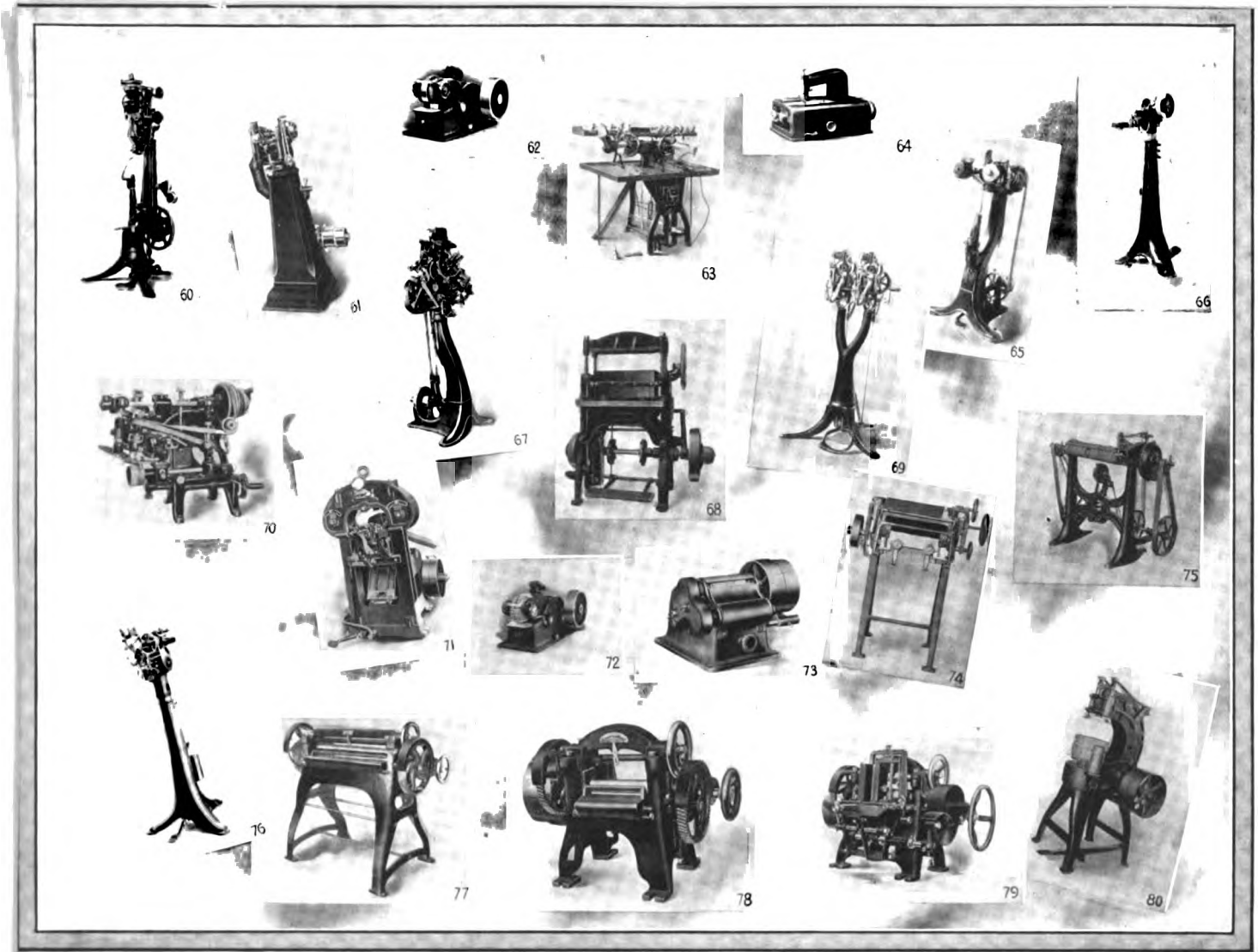
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40. Rex Assembling Machine
41. Royal Perforating Machine — Model B
42. Pyramid Heel Building Machine — Model C
43. Empire Splitting Machine — Model C
44. Rex Upper Trimming Machine
45. Xpedite Heel Finishing Machine
46. Top Piece Sanding Machine — Model G
47. Crown Tip Punching Machine — Model P
48. Heel Seat Rough Rounding Machine
49. Hercules Leveling Machine — Model B
50. Star Channel Cementing Machine
51. Champion Shank Skiving Machine — Model A
52. Edge Trimming Machine — Model A
53. Victor Rolling Machine — Model E
54. American Lightning Nailing Machine
55. Ensign Lacing Machine — Model B
56. Rapid Rotary Cementing Machine
57. Apex Channeling Machine
58. Improved Vamp Marking Machine — Model C
59. Premier Heel Pricking Machine

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60. Rapid Standard Screw Machine
61. Crescent Toe Gouging Machine — Model C
62. Eagle Upper Stamping Machine — Model C
63. Miller Twin Shoe Treeing Machine — Model H
64. Pluma Skiving Machine — Model D
65. Loose Nailing Machine No. 2
66. Goodyear Upper Stapling Machine
67. Rex Pulling Over Machine
68. Improved Gearless Sole Cutting Machine — Model A
69. Taper Nail Tacking Machine, Double Head
70. Amazeen Skiving Machine — Model No. 7 and Grinder
71. Automatic Heel Compressing Machine No. 4
72. Eagle Sole Stamping Machine — Model C
73. Goodyear Flexible Sole Machine — Model B
74. 18" Centennial Splitting Machine — Model A
75. Buffing Machine — Model G
76. Goodyear Tack Pulling and Resetting Machine
77. Summit Splitting Machine — Model P
78. Summit Splitting Machine — Model M
79. Champion Heel Lift Skiving Machine — Model A
80. Improved Baby Sole Cutting Machine — Model P

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The History of Labor Organizations connected with the Boot and Shoe Industry.

To cite the first labor organization in the boot and shoe industry it is necessary to go back to as early as 1648, and to the state in which the shoe industry was born and which has always had the lion's share of the industry,- Massachusetts. Massachusetts "colony" in 1648 permitted the organization of the first union, "The Company of Shoemakers". The reason for the origination of this "gild", as it was called, was the attempt to suppress inferior shoemaking. On account of the complaints of the 'damage' which the country sustained 'by the occasion of bad ware' the shoemakers were permitted to meet, elect a master, two wardens, four or six associates, a 'clarke', a sealer, a searcher, and a beadle who should govern the trade".* Officers were given authority to examine the shoemakers and to suppress anyone whom they did not believe "to be a sufficient workman"** and to regulate the work of those who were approved. The colonial authorities protected themselves from the abuse of these powers by placing the determination of difficult cases in the hands of the county judges. Two restrictions were placed upon the officials of the company. They could not "inhance the prices of bootes, shooes or wares",*** and they could not refuse to make shoes for inhabitants "of their owne leather for the use of themselves and families"**** if required by the latter.

This corporation presented a transition stage, that of the itinerant shoemaker working up the raw material belonging to his

* Commons, Labor and Administration, p. 221
** Ibid, p. 222
*** Ibid, p. 223
**** Ibid, p. 222.

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customer in the home of the customer, to the state of the settled shoemaker working up his own material in his own shop to the order of his customer. The fact of the existence of the itinerant shoemaker was the cause of the inferior shoemaker which made a "company of shoemakers" necessary. He was a serious menace to the better trained shoemaker who worked in his own shop, with his own tools, on his own materials, and had the disadvantage of waiting for his customers to come. The itinerant escaped supervision by his fellow craftsmen. He owned only his tools - his customer to whom he went owned the workplace, the raw material, the lodging, and the food supplies of the shoemaker. This condition was disadvantageous to him in that he had to work in a new place for each order, and the work place did not have the convenience and equipment for speedy and efficient work. The fact of his having to seek his customer was a disadvantage also.

This Boston guild represented the union in one person of the three later separated classes, the merchant, the master, the journeyman. Each of these classes has had a separate function. The merchant function controlled the kind and quality of the work, and its remuneration came from the ability to drive the bargain with the customer in the process of adjusting price to quality. The master function controlled the workplace, the tools and equipment, and passed along to the journeyman the orders received from the merchant, the remuneration coming from the management of capital and labor. The journeyman function was remunerated according

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to skill and quality of work, speed of output, and amount and regularity of employment.

In 1789 the first trade union, The Society of Master Cordwainers, was organized. This was an organization more properly of employers than employees. These masters united in their function of retail merchant rather than in their function of employer. They had many inconveniences under which they labored and they wished to remedy them. Two of them in particular were the competition of cheap grades of goods offered for sale at the "public market", and the competition of masters who offered bargain prices by public advertisement. Among the qualifications for membership into this society was the following: "No person shall be elected a member of this society who offers for sale any boots, shoes, etc. in the public market of this city or advertises the prices of his work in any of the public papers or hand bills, so long as he continues in these practices".** In later times the masters were organized in their function of employer. The early organization regulated prices. In the early organization the journeyman's interest was the same as the master's. In later organizations the journeymen's interest was hostile to both consumer and master.

The development of the market, which is so vital a factor in the economic history of the boot and shoe industry, shows three stages. The "bespoke" or custom order is the earliest. The craftsman of the Preston ilk made his boots and shoes to order,

* Commons, Labor and Administration, p. 303.
** Ibid, p. 303.

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i. e. upon the order of his customers. About 1780, in and about Philadelphia, the retail shop stage is evident. This indicated a wider market. Investment of capital, raw material, finished products, and personal credits were the economic factors which entered. The material was given to the journeyman to be made in the home and brought back to the shop. So in addition to "bespoke" work there was "shop work", and the master was not only retail merchant but employer as well. In the third stage, which was known as the wholesale stage, the master sought a foreign market. He carried samples to distant merchants and took orders for goods to be later made and delivered. He became a wholesale merchant employer carrying a larger amount of capital invested in material and in products. It was necessary to have longer credits and a larger number of journeymen. To the "bespoke" work and "shop" work "order" work was added. The journeyman was engaged on one kind and quality of work with the same tools and workshop but with four different destinations for his product.

The "bespoke" was the custom market offered by the well-to-do for the highest quality of work at the highest level of competition. "Shop" work had the retail market of less particular customers at a wider, but lower level of competition and quality. "Order" work had the wholesale market which was at a lower level of strenuous competition and boots were of indifferent quality. For "market" work there was the cheap public market consisting of the poorest customers. Here was found the lowest level of competition which undermined especially the shop work level, to a lesser degree the order work level, and so lowly tempting the bespoke level. "It was the widening out of these markets with their lower

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levels of competition and quality, but without any change in the means of production, that betrayed the primitive identity of master and journeyman coordination and split their community of interest into employers' association and trade union."* The struggle occurred not as a result of changes in tools or methods of production, but directly as a result of changes in markets. It was a struggle on the part of the merchant employer to require the minimum quality of work for each of his markets and lower rates of wages in work destined for wider and lower markets. It was a struggle on the part of the journeyman for the same minimum wages on work for each market, but with the option of a higher wage on work for a higher market. The conflict came over the wage and quality of work destined for the widest, lowest and nearest market.

It was the third or export stage of the market with its wholesale "order" work that separated the interest of the journeyman from the interests of the master. Market work was a menace to the journeyman's wages on shop work, and a menace to the master's business as retail storekeeper. It was "order" work which separated them.

Thus the organization of masters according to their employer function as compared with their former organization according to their merchant function caused a "re-alignment of personnell." Both the employer and the workman on high class custom work "scabbed" on their respective class organization struggling to control wholesale-order work. Several steps in this alignment of in-

* Commons, Labor and Administration, p. 378.

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terests appeared in the history of the journeymen's soceity.[88] The first soceity of journeymen was organized in 1792, two years after the master's soceity had dissolved. It was secret; it did not submit a scale of prices to the employers, and it did not call a strike, but each member took a "solemn oath", "I will support such and such wages to the utmost of my power, etc."* Some secretly violated the pledge. A repeal of this affirmation was requested which broke up the soceety in 1793. This raised the price of shoes. In 1794 a permanent soceety was organized which continued until 1806. In 1794 and in 1796 it secured an increase in the price of shoes. These increases affected only shop and bespoke work. Bespoke and shop work was sold to customers at $2.75, but order work was sold to retailers at $1.60. Thus for normally the same quality of shoe the journeymen's soceety was able almost to double its wages in the custom and retail work, but had brought about an increase of only a few cents on the wholesale-order work. The employer as retail merchant gave to his employees an advance out of the advanced retail price of his goods, but as wholesale merchant he was not able to give a similar advance. The better class of workingmen gravitated towards custom and retail work, and the inferior workingman gravitated towards wholesale work; so what was originally the same quality of work and nominally remained the same became eventually different in quality.

This variation of price and quality is observed also in the price of boots. In 1792 they were made for $1.40 a pair, and in 1796 at $2.75 a pair. But the workingmen conceded that they should

*Commons, Labor and Administration, p. 237.

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make order work at $2.50 in order to encourage the exportation trade. In 1798 at the time of the cholera epidemic they were paid only $2.25. They struck. The employers granted them their demands, but in 1799 they effected an organization and ordered a return to the former wages. A strike and lockout followed which continued nine or ten weeks, and ended in a compromise. In 1804 there was another brief strike which the journeymen won, and were paid $3.50. This led to the obstinate strike of 1805 in which the journeymen demanded a flat increase to $3.00 on wholesale and retail work. But the employers had perfected their organization and their list of prices made no mention of order work. The workingmen lost and had to accept the employer's list. The price paid on custom work had advanced from $1.40 in 1789 to $3.75 in 1806 while the price on wholesale work of the same quality was left open to individual bargains. As in the case of shoes the differentiation in prices led to a differentiation in quality. (The custom and retail work had the superior workmen).

Characteristic features of the retail and wholesale order stages of the industry must be noted. The master workman at the retail stage has added a stock of finished goods to his business of custom work. This requires a shop on a business street with high rents. It involves also a certain amount of capital tied up in short credits and accounts with customers. In the shop is the stock of raw material besides the finished and partly finished goods. The merchant function has become paramount and has drawn

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with it the master function. The two functions have equipped themselves with capital - merchant's capital-in the form of finished stock, retail store and short credits; employer's capital in the form of raw material undergoing manufacture by workmen under instructions. The journeyman is left with only his hand tools and his home workshop. Thus it is the retail market which has separated the laborer from the merchant. Each has two different objects. Labor's outlook is solely for wages. The merchant outlook is for quality and prices. There is no antagonism because the employer function is as yet at a minimum. Profit is more dependent on increasing prices than on reducing wages. The journeymen are able almost to double their wages without a strike for the merchants pass the increase along to the customers.

When the wholesale order stage is reached conditions are changed. The merchant adds heavy expense for solicitation and transportation. He adds a storeroom and a larger stock of goods. He holds the stock a longer time and "gives long and perilous credits".* He meets competitors from other centres of manufacture and he cannot pass along his increased expenses. Consequently the wage-bargain assumes importance and the employer-function is paramount. The conflict between capital and labor is on.

In 1835 in the city of Philadelphia the United Beneficial Society of Journeymen Cordwainers took the lead in bringing together the several trade societies of Philadelphia into the first great

*Commons, Labor and Administration, p. 240.

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general ten hour strike in the country. The causes of this strike was the dropping of wages on a pair of boots from $3.75 to $1.13½, the dropping of the weekly wage from $9.00 and $10.00 to $4.00 and $8.00, and the requirement that workmen work fourteen hours a day. Other skilled workmen were earning $8.00 to $13.00 a week, often working only ten hours a day. This depression began with an unfortunate experiment of the journeymen in "opening shops for the manufacture of cheap goods"* for the purpose of winning a strike, and by the appearance of the merchant capitalist, or the wholesale manufacturer. He made large quantities of shoes and sold at reduced prices, while those who had served their time at the trade and had an anxious desire to foster and cherish its interests had to abandon the business or enter the system of manufacturing on a large scale. By making cheap work triple the quantity had to be made to obtain a living. This caused at dull seasons a surplus of work in the market. The larger manufacturers, taking advantage of the times, compelled their journeymen to make their work superior so that it was brought into competition with first rate work. This lessened the quantity of first rate work made, and the journeymen, formerly working for employers who gave them $3.75 for each pair, were forced to seek employment from the very men who had ruined their business.

Employers also were in a dubious position. They agreed to aid and encourage labor and to raise prices instead of reducing wages. Nine months later, because of the exactions of the union

*Commons, Labor and Administration, p. 242.

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and their inability to control the merchant capitalist they were forced to take an opposite stand. They organized an employers' association.

Due to improved methods of transportation and progress of the banking and credit system the merchant capitalist had the advantage. He could convert customers' credits into bank credits and was able to stock up a surplus of goods in advance of actual orders. The market became speculative and the warehouse of the wholesale merchant master took the place of the retail capitalist. The former master became the small manufacturer or contractor, selling his product for the wholesale manufacturer, the merchant capitalist. Due to the latter's wide range of option in the purchase of goods he was able to compel masters and journeymen to compete severely against each other. He could find new fields for cheap work - he used prison and convict labor and he could have his shoes made in distant localities. He had the option of all the different methods of manufacture and shop organization. He could employ journeymen as cutters, fitters and pattern makers. He could employ them in their homes to take out material and return finished work. He could employ small contractors, the specialized successors of the master cordwainer, who in turn employ one to a dozen journeymen. By division of labor and team work he introduced the sweating system. The merchant capitalist not only intensified but created the antagonism between capital and labor. He did it by forcing the separation of the functions- the employer function and the retail merchant function.

He took to himself the wholesale business and left to the merchant

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the retail trade. He could buy and sell in large quantities. He assembled the cheap products of labor, of distant localities, of sweat shops. He informed himself of markets and beat down the charges for transportation.

He took to himself also the employer function leaving the retail merchant stripped of it. The retail merchant could no longer afford to employ journeymen on "shop" work, for he could buy more cheaply of the merchant capitalist.

Thus the merchant capitalist stripped the former merchant master both of his market and his journeymen. The wholesale market he took to himself, and the journeymen he handed over to an employer, who was the "boss", or the specialist in wage bargaining. This employer was one without capital for he rented the workshop, the merchant capitalist owned the raw material, the journeymen owned the tools. He was not a capitalist nor a merchant, for his profits did not arise from transforming raw material into finished product nor did they arise from selling the finished product. His profits came solely out of wages and work. He organized the workmen in teams with the work subdivided in order to lessen dependence on skill and to increase speed of output. He played the skilled against the unskilled, the speedy against the slow, and reduced wages while enhancing exertion. His profits arose from manipulating labor; they were "sweated" out of labor.

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Thus the merchant capitalist with his widespread, wholesale-speculative market completed the separation and specialized the functions of the former homogeneous craftsman. His merchant function was split into three parts. He was the custom merchant, the retail merchant, and the wholesale merchant corresponding to the three original levels of market competition. His journeyman function was split into two levels of competition, the highest level of custom work, and the lowest level menaced by prison and sweatshop work. His employer function, the last to split off, was on the lowest level of market competition.

The wide extension of the market was in the hands of the merchant capitalist. It is he who suffered in the development from the homogeneous craftsman to the merchant capitalist. He struggled to regain his original level. His merchant employers at first sympathized with him and endeavored to pass over to their employers his just demand for a higher wage. But they soon were crushed between the level of prices and the level of wages. From the position of a merchants' association striving to hold up prices they shifted to the position of an employers' association endeavoring to keep down wages. Their profits came from low wages. The journeyman furnished the profits.

We come now to an entirely different step in the progress of industrial stages. Prior to 1837 there had been scarcely a hundred inventions affecting the tools of the cordwainer. Even

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as late as 1851 hand labor predominated for the inventions made could hardly be called machines; they were "devices". In 1852 the sewing machine appeared, but it did not affect the journeyman, for the sewing of the uppers was done in the home by the women. During the fifties there was the flood of inventions, but they were aids to the journeyman rather than substitutes of him. It was rather the women who were displaced, for the operation of these machines required greater physical strength than the women were able to furnish, and the work went to the men. But all of the inventions were essentially shop tools, "devices", and not factory machines. They were for the most part patterns for cutting the uppers, the soles and other minor parts of the shoe, adjustable lasts, levellers, skivers and machines for heel making, lasting and sandpapering.

With the appearance of the pegging machine in 1857 and the McKay sole-sewing machine in 1862 radical changes took place. Machines are belted up to steam, the workshop must be made larger to accomodate these machines, many people are needed to operate them, and the factory is born. Men not only of strong physique but of superior skill are needed to operate the machines. Shoes are made on an entirely new scale - they are machine made, and made at great speed. The McKay sole sewing machine did in one hour what the journeyman did in eighty hours, and the journeyman protested.

At the middle of this transition period, 1868 - 1872, the Grand Lodge of the Knights of St. Crispen appeared and flourished beyond anything theretofore known in the history of organized

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labor. It had a membership of 40 or 50,000 (the membership of the largest union preceding the Knights of St. Crispen was 12,000) and disappeared as suddenly as it had arisen. It was a protest not against the use of machinery, but against the abuse of it. The Knights of St. Crispen were organized not to oppose the machine, but to oppose the substitution of inexperienced men for journeymen in the operation of the machines. The national organization had one law. It was the refusal to teach "green hands" except by consent of the organization. The local organizations had many individual problems. "Their strikes and lockouts were as various as the variety of shops and factories in which they were employed".* This was a period of overlapping of stages. The preceding period of hand methods and "devices" was still much in evidence, and the succeeding period of machinery had a vigorous beginning. This condition produced a varied set of circumstances and many a conflict of interests. The journeymen were employed in custom shops, in retail and wholesale-order shops, in the shops of the merchant capitalist and his contractors, and in the factories of the merchant capitalist. All of their strikes, however, bore directly or indirectly on two main issues, - a resistance to wage reductions, and a refusal to teach "green hands".

The merchant capitalist in his aim to get his shoes as cheaply as possible became a manufacturer himself, purchased from the manufacturer as cheaply as possible, or cut the wages of his journeymen. The journeyman with his "devices" and foot power machine did not produce a sufficient increase of output to offset his wage

* Commons - Labor and Administration - p. 250

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reductions. To enlarge his difficulties, wage reductions occurred only on shop work and not on custom work. This irregularity of different prices for the same grade of work was felt more than ever under the competition of factory products. Even with prison labor and Chinese labor the merchant capitalist could not compete with the product of green hands and steam power.

The factory not only had the advantage of speed of output- it produced shoes equal in quality or even superior to those of the journeyman. "Its levelling agencies consequently reached downwards to all but the topmost level, the custom order, on which the journeymen had succeeded in placing themselves and brought them down eventually to its own level". * Hence we get a new view of the raison d' etre of the Grand Lodge of the Knights of St. Crispen. "It was the protest of workmen whose skill of work, quality of product and protective unions had for a generation preceding saved for themselves the higher levels of the merchant-capitalist system against the undertow of prison and sweat shop competition".**

In the shoe industry the factory system was established in the early part of the eighties; "detailed piece-work has taken the place of team work and hand work; the last vestige of property right has left the workman";*** the present form of labor organization, the Boot and Shoe Workers' Union, has endeavored since 1895 to bring together all classes of employees, men and

* Commons - Labor and Administration - p. 257
** Ibid - p. 257
*** Ibid - p. 258

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women, in a single industrial union rather than a partial trade union.

The Boot and Shoe Workers' Union and other large labor organizations, such as the National Association of Boot and Shoe Manufacturers, the New England Shoe and Leather Association, and the United Shoe Workers of America deal with huge problems like the tariff and national trade regulations. The smaller organizations deal with credits, factory conditions, and labor matters.

The labor organizations are rolling up mighty assets and are forcing new conditions in the shoe industry. They demand consideration of the human element. They work in two fields, the industrial and the political. They insist that manufacturers improve conditions in factories as fast as circumstances warrant, and they have shown their power to fix wages, hours of labor, and conditions of employment. They have proved their power to secure legislation regulating hours of labor of women and children, to secure compensation for injured workmen, and various other conditions desired by laboring men.

An exemplification of what labor has attained is the Plumm Bush Cooperative Association of the Plumm Bush and Nelson Shoe Company of Milwaukee, Wisconsin, a description of which constitutes the following chapter.

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A Description of an Up-to-date Shoe Manufacturing Concern, the Nunn Bush & Weldon Shoe Company, Milwaukee, Wisconsin- 1920.

This corporation, The Nunn Bush & Weldon Shoe Company, was organized in 1912. At that time it employed 175 persons and manufactured 600 pairs of shoes a day. The shoe manufactured was a man's unlined work shoe, made by the Goodyear welt method. In 1917 mens' and boys' unlined semi-dress shoes were made. Since 1917 this company has seen its greatest growth. At the present time, April, 1920, it is making men's and boys' Goodyear welt superfine and semi-fine lined shoes. The employees number 1047, 45% of whom are women. No boy or girl under seventeen years of age is employed.

The building occupied by the Nunn Bush & Weldon Shoe Co. is of the block type, having no wing constructions. It is a brick building, is 165 feet long and 150 feet wide, and has seven floors. Employees are permitted to use the elevators. Each floor has a dressing room for the women. The seventh floor is occupied by a capacious and attractive dining room and recreation facilities. The dining room is as comfortable and pleasant as the dining room of the average home. It is comfortably large and exceptionally well lighted. About fifty per cent of the employees are accommodated at one time. They are served in two shifts, one at 11:30 and one at 1:30. Round tables, which seat six or eight people, are comfortably spaced and are covered with white table-cloths. A substantial and hot meal consisting of soup, potatoes, meat, a vegetable, bread and butter, coffee, and dessert is served, all of which can be had for twenty cents. Cafeteria service also is

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furnished. Hot soup, potatoes, and coffee may be had to supplement the sandwich brought from home. Dancing is provided for in the recreation room adjoining the dining room. The dining-room does not function merely as a place to eat; it is a splendid socializing agency. A quotation from the head of the head of the Personnel Department is the following, "The lunch room has been a very fine investment. No employer can do anything better than to give a hot meal at noon to better conditions."

The socializing idea is carried out to a greater degree in the social gatherings which occur every two weeks. These parties are for the employees and their families. They are entertained at cards, by dancing or by musical concerts. The motives of these parties are not only to give the guests a good time, but to have the family of one employee get acquainted with that of another. It is not an Americanization project, for foreigners do not figure largely among the employees; it is purely altruistic. Mr. Nunn believes that in endeavoring to alleviate the differences between capital and labor, the manufacturers should not rely on didactic speeches from strangers, but he believes that the manufacturer should get acquainted with his employees, and by the "give and take" obliterate the differences and misunderstandings.

We find this substantiated in the Nunn Bush Cooperative Association which has for its object "to bring into closer relationship the employees in said company, and the employees with the employer for the purpose of bringing about a better understanding between the employees and the employor, higher wages, greater production, general welfare of the employees, the elimination of in-

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justice, and a square deal for all alike; and for the further purpose of providing relief to certain of its members in case of disability from sickness, and financial assistance in the event of death of such a member, or of the immediate dependent members of his or her family."*

Every employee in the Nunn Bush & Weldon Shoe Company is a member of this Association and is entitled to all the rights, privileges and benefits of membership. He can elect to become a Benefit member or a Non-Benefit member.

The salient features of the government of this association which attains the end of mutual benefit are a Joint Council and a Shop Committee. The Shop Committee is a representation of the factory employees. It consists of twelve members chosen from the twelve departments of the factory. The Joint Council consists of eight members, four of whom are re-appointed by the Shop Committee, and four by the Nunn Bush & Weldon Shoe Co. It is "empowered to receive complaints, hear, try and determine all charges and grievances submitted to it by the Shop Committee; after proper investigation and due determination, direct the management to discharge employees; and recommend to the management of said company proper and necessary changes, alterations or improvements in the equipment of said factory, changes to promote the welfare of employees, sanitary conditions, social changes, revision of wage scales, and elimination of any injustice either on the part of the company or the employees thereof."**

*Constitution and By-Laws of the Nunn Bush Co-operative Association, p. 2.
** Ibid, p. 5.

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Each member of the Council has equal power with every other member, each having one vote. If in the exercise of its functions it happens that it is equally divided in settling a question, the question is submitted to a board of arbitration. This board consists of three members, two of whom are appointed by the two opposing sides respectively, and the two appointees appoint a third person, entirely disinterested, outside of the company, or outside of any of its employees. The management of the Nunn Bush & Weldon Shoe Co. can not discharge an employee until such proposed discharge has received the approval and sanction of the Joint Council. The management may, however, suspend an employee on full pay until the question of his or her discharge shall have been passed upon by the Joint Council.

The principal function of the Shop Committee is "to hear, investigate and determine all complaints of members of the association, and upon appeal by either party refer the same to the Joint Council for determination".* In addition it inspects the factory from time to time; and reports to the Joint Council the conditions regarding safety appliances, sanitary conditions, and general comfort of employees. It is empowered to appoint the members of the Social Committee, to appoint four members to serve on the Joint Council, to nominate not less than two nor more than three candidates for the position of Chairman of the Shop Committee. These nominees are approved and confirmed by the Joint Council and an election is made by the members of the Association. No member of the company, board of directors, or an executive can become chairman of the Shop Committee. The powers and duties of this chair-

*Constitution and By-Laws of the Nunn Bush Co-operative Association, p. 8.

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man are "to have access to every part and department of the factory of said Company; to be the direct representative of the employees of said Company who are members of the association; to make all investigations on behalf of the Shop Committee upon the application for membership to the Association, to attend all meetings of the Joint Council; to preside at all meetings of the Shop Committee and all regular meetings of departments as hereinafter provided; to take care of all welfare work; to call meetings and act in conjunction with the Social Committee; to investigate all complaints and grievances of members of said association of the management of said Company, and after due consideration and determination by the Shop Committee, if an appeal is taken, to report such grievances and complaints for determination to the Joint Council."* The chairman is not employed by the Company and receives no compensation whatsoever from it. He is paid by the Association, an amount equal to the weekly wage he was receiving at the time of his election. It is the duty of each member of the Committee, individually, to study the conditions in his or her particular department, and to use his or her influence for its betterment by reporting immediately to the Shop Committee conditions regarding safety appliances, general cleanliness, sanitary conditions, and general comfort of the employees.

"The object of the benefit branch of this association shall be to provide relief to its members in case of disability from sickness; to grant financial assistance in the event of the death

*Constitution and By-Laws of the Nunn Bush Co-operative Association, p. 9.

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of such a member; and to create and maintain a fund which shall belong to the members of said association to be used in the payment of said sick and death benefits."*

The benefit members are divided into three classes: class 1, those earning less than $15 a week; class 2, those earning $15 to $20 a week; class 3, those earning over $20 a week. The dues of these three classes are 4¢, 6¢, and 8¢ a week respectively. The Nunn Bush and Weldon Shoe Company pays dues, an amount equal to 50% of the amount collected by the above method. In case of sickness or disability of a benefit member of the first class, he or she receives $6 per week after the first week; of the second class, $9; of the third, $12. In case of the death of a benefit member of the first class his family receives $100; of the second class $150; of the third class $200. Benefits are not given for more than seven weeks consecutively, or for more than fourteen weeks consecutively. Where the Company is obligated under the Workmen's Compensation Law to give compensation no benefits by the Association are paid.

A Savings & Profit Sharing Fund was established in May, 1917. The plan of the fund is to enable those employees who remain with the Company all of their active life to provide for themselves after the age of retirement; to enable those who do not remain all of their active life but who achieve a long service record to accumulate a substantial sum and so enable them to secure an income after the close of their active life, or in case of death for their families.

*Constitution and By-Laws of the Nunn Bush Co-operative Association, p. 11.

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The Company's contribution is based on the number of employees eligible and actually participants of the fund. It is hardly probable that there is ever a time when every employee elects to participate even though eligible. Accordingly the following rule is applied where the total payroll of the Company exceeds the total payroll of participating members of the fund. The Company contributes annually to the fund a sum not less than such proportion of 25% of its "net earnings"* as the total annual payroll of participants bears to the total annual payroll of the Company. To illustrate: If the total payroll be $300,000, the total payroll of participants of the fund $100,000 and the total earnings of the Company $160,000. The contributions will be 1/3 of 25% of $160,000 or $13,333.33.

Any employee regardless of position, who has been with the Company continuously for not less than three months and who does not own more than twenty shares of common stock is eligible.

An employee in order to participate, must deposit in the fund 5% of his or her salary or wages. The Company contributes a sum as described. No employee may deposit more than 5% of his or her wages, and in no case more than $150 a year.

A depositor who has completed ten years of service will be entitled after sixty days notice to the Trustees to withdraw all money credited to his account including the Company's contributions.

*"Net earnings" here means earnings for the year as shown by the annual audit of the Company's books after deduction of all accumulated dividends on the then outstanding preferred stock of the Company, but without deduction of dividens on the common stock.

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A depositor who has not completed ten years of service will be entitled after sixty days notice to the Trustees to withdraw all money he has deposited, plus interest thereon at 7% per annum, compounded annually but no more; and all sums credited to him from contributions by the Company together with the accumulations thereon shall revert to the Company.

A depositor must withdraw when he ceases to be an employee of the Company or upon failing to regularly make his deposit.

The fund will be intrusted and invested under the direction of a Board of five Trustees, to be selected by the Board of Directors of the Company; two to be officers or directors and three employees (not officers or directors) of the Company. It is intended that so far as practicable and advisable the fund will be invested in shares of preferred stock of the Company, to the end that the depositors may, in the largest measure possible, share in the earnings of the Company. The plan may be discontinued at any time by announcement of the Company, made at least six months before its final yearly contribution. After such announcement no new depositor will be eligible to join and upon the payment into the fund of such final contribution the fund shall be distributed among all the depositors pro rata in proportion to their interests as ascertained by the Board of Trustees.

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APPROVED BY Hazel Manning

June 14. 1921

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